

# PROCESSOR

Products, News & Information Data Centers Can Trust. Since 1979

# Vista: Why Should SMEs Care?

## Microsoft's New OS Could Change The Enterprise Landscape

by Elizabeth Millard

**YEARS IN THE MAKING**, Microsoft's overhaul of its operating system was released to enterprises last November, although analysts believe that it will be at least another year before most companies have Windows Vista integrated into their environments.

Small to midsized enterprises may not be rushing to bring Vista into their operations yet, but analysts note that they should at least be thinking about creating a deployment plan. With new features in the system, and other software developing around Vista's functionality, SMEs could find that Vista is certainly fodder for discussion and eventual use.

### Feature Rich

If an SME is comfortable with its older version of Microsoft Windows ([www.microsoft.com](http://www.microsoft.com)), it might not care that Vista is finally shipping. But companies

shouldn't stay stuck in the past for too long, analysts advise, because it isn't just Vista that's changed.

Thousands of software and hardware firms are developing products that integrate with Vista or are affected by the system in some way. Many will build their applications around Vista, and that could mean reduced support for other versions or eventually discontinuing versions for older systems.

But the reason for moving toward Vista isn't just more updated applications—the OS itself has a number of features that are likely to appeal to SMEs, a group that Microsoft has been keen to serve for some time.

Windows Vista Business has been designed specifically to improve deployment and management of the operating system, Microsoft has noted. For example, image-based installation is now

*Go to Page 8*



# Data Center Fire Protection

## Can You Take The Heat?

by Chris A. MacKinnon

**WHEN YOU CONSIDER** top priority tickets for the data center, security, data protection, and power consumption rise to the top. But the one thing that every data center should have, that we often throw on the

back burner, is fire protection. Right now, if you heard that your data center was engulfed in flames, you would likely sit in shock, especially if you were not equipped with the proper protection. Fortunately, you can avoid this reality by taking the proper steps to protect your data center.

### The Heat Source

Dave Admirand, chief data center engineer at PTS Data Center Solutions ([www.ptsdcs.com](http://www.ptsdcs.com)), says in his own experience, electrical fires are the most common types of fires in data centers. He says, "These are typically caused by electronic equipment failures or failures of the branch circuits powering the data center equipment, including UPS and air-conditioning equipment—if located in the data center."

Joe Ziemba, marketing manager of engineered systems for ANSUL ([ansul.com](http://ansul.com)), says another primary cause of fires is waste-baskets. "Despite the emergence of non-smoking facilities globally, apparently there are still some examples of fires caused by accidental ignition," Ziemba says. "There are also some prevalent sources that are more closely associated with data centers such as overheating of equipment, wiring difficulties in subfloors, and electrical malfunctions. Finally, fires in data centers may also originate in surrounding rooms within the building."

### Taming The Heat

Ziemba says every small to midsized enterprise should have fire protection and prevention strategies. He says, "Some of the common strategies for fire protection

*Go to Page 10*

**The one thing that every data center should have, that we often throw on the back burner, is fire protection.**

## In This ISSUE

### COVER FOCUS

#### Windows Vista

Vista is here, but have you started to prepare? Here's our guide to the most important Vista features for the enterprise, along with a look at the steps you need to take to plan and prepare for the new OS.

Vista: Why Should SMEs Care? .....	1
Planning & Preparing For Vista .....	9
Vista's Hardware Demands .....	11

### TECH & TRENDS

#### Data Center Fire Protection | 1

The one thing that every data center should have, that we often throw on the back burner, is fire protection.

#### Understanding Your Data Center's Physical Issues | 24

Unfortunately, physical issues increasingly trip up company IT networks, leaving IT administrators grappling with power outages, overheated server rooms, and lack of physical space for networks to run efficiently and safely.

#### Rules For The Outsourced Help | 25

With the growing role of compliance and a potential Vista deployment on the horizon, the workload is only getting bigger, and more and more companies are bulking up their staff with highly skilled temp or temp-to-perm workers who function as consultants on a placement firm's payroll.

#### Why Users Don't Use Their Business PC | 26

It's typical to come across users who believe they can be an exception to the PC standard an organization has in place.

### NEW PRODUCTS

AVTECH Room Alert 26W .....	15
Reconnex iGuard 2600S .....	16
Clearswift MIMEsweeper Email Appliance .....	16
Aten KN2108/2116 CAT5 KVM Over the NET .....	17
Hitachi BladeSymphony .....	17

### Product Releases | 15

■ **Alcatel-Lucent** announced its OmniSwitch 6850L and OmniSwitch 6850-U24X stackable switches. ■ **AVTECH** released the newest member of its Room Alert hardware line, the Room Alert 26W. ■ **DCB** released the Encrypted EtherPoll EEP-2. ■ **Iomega** announced a new version of its Iomega UltraMax Desktop Hard Drive and a new small form factor Iomega Black Portable Hard Drive. ■ **MOXA Networking** announced the EDS-516A, an industrial Ethernet switch. ■ **nCipher** has introduced the miniHSM embedded security module. ■ **Seagull Software** has introduced LegaSuite IMS Gateway.

### EACH WEEK

Upcoming IT Events .....	3	Opinions .....	19, 20
MarketPlace News .....	3	Book Review .....	21
MarketWatch .....	4	What's Happening .....	27
Product Releases .....	15	Processor.com .....	27

The Processor.com home page is updated each week with new articles and hardware news to help you keep current. Visit [www.processor.com](http://www.processor.com) today.

## Subscribe Today / Address Change Form

**PLEASE PRINT**

Phone: ( \_\_\_\_\_ ) \_\_\_\_\_ Fax: ( \_\_\_\_\_ ) \_\_\_\_\_

Contact Name: \_\_\_\_\_

Company Name: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Postal Code: \_\_\_\_\_

Country: \_\_\_\_\_

Email: \_\_\_\_\_ Web Address: \_\_\_\_\_

**1. What is the size of your company  
(how many employees)?**

- Less than 10
- 200 to 499
- 10 to 99
- 500 to 999
- 100 to 199
- 1,000+

**3. What is your annual computer hardware/  
software purchasing budget?**

- \$0 to \$9,999
- \$10,000 to \$24,999
- \$25,000 to \$49,999
- \$50,000 to \$99,999
- \$100,000 to \$249,999
- \$250,000 to \$499,999
- \$500,000 to \$999,000
- \$1,000,000+

**2. How often do you purchase computer  
hardware/software?**

- Weekly
- Quarterly
- Bi-weekly
- Annually
- Monthly
- No Involvement

For address change, fill out form below with new information and mail or fax.

# PROCESSOR

© Copyright 2007 Sandhills Publishing Company.  
All rights reserved.

Subscriptions: (800) 819-9014  
Subscriptions Local: (402) 479-2170  
Subscriptions Fax: (402) 479-2123  
Mail Form To:  
P.O. Box 85518, Lincoln, NE 68501-5518  
Overnight Delivery:  
120 West Harvest Drive, Lincoln, NE 68521

[www.Processor.com](http://www.Processor.com)

## Advertisers Index

COMPANY	PAGE	COMPANY	PAGE	COMPANY	PAGE	COMPANY	PAGE
DIGILIANT	19	MEDIA RECOVERY	23	REGENT SALES INC	23		
360 TECHNOLOGIES	21	DIGITAL BROTHERS GROUP	26	MELLANOX TECHNOLOGIES INC	7	RELIABLE RESOURCES INC	11
ABACUS SOLUTIONS LLC	23	DRIVE SOLUTIONS INC	23	MICRO MEMORY BANK	25	ROSE ELECTRONICS	28
AMERICAN PROIMAGE	8	ELI SYSTEMS INC	25	MICROLAND ELECTRONICS CORP	14	SANS DIGITAL	7
ARBOR SOLUTIONS	8	ENHANCE TECHNOLOGY	9	NLE	26	SANS DIGITAL	8
ARBOR SOLUTIONS	10	EQUIPMENT MANAGEMENT INC	23	NORTHWEST PERFORMANCE SOFTWARE	11	SERVER TECHNOLOGY	13
ARC COMPONENTS	23	EXCEL MERIDIAN DATA	10	NRS INC	24	SERVER TECHNOLOGY	14
ASA COMPUTERS	18	GLOBAL PRINTER SERVICES	23	PACE / BUTLER CORP	23	SERVERS DIRECT	6
ATLAS SALES AND RENTALS	13	HERGO ERGONOMIC SUPPORT SYS	13	PEGASUS COMPUTER MARKETING	13	SMS ASSEMBLY	23
AVTECH SOFTWARE INC	5	HERGO ERGONOMIC SUPPORT SYS	15	PEGASUS COMPUTER MARKETING	23	UNITY ELECTRONICS	10
AVTECH SOFTWARE INC	13	HERGO ERGONOMIC SUPPORT SYS	16	POWERFILE	9	VECMAR COMPUTER SOLUTIONS	26
B L TRADING INC	25	I T TRADING	23	POWERFILE	14	VIBRANT TECHNOLOGIES INC	25
BAYTECH	14	I-TECH CO	8	PREMIER SOLUTIONS CO	22	WR CONSULTANT ASSOCIATES	25
COMPUREX SYSTEMS	23	INFORMATION SUPPORT CONCEPTS	16	PULIZZI ENGINEERING INC	21	ZEROWAIT	26
COMPUTER CONNECTION	23	INTERNATIONAL SYSTEMS MGT	23	PYRAMID COMPUTERS USA	22		
COMPUVEST	22	ISTAR USA	22	RACKMOUNT SOLUTIONS	8		
CYBER SWITCHING	13	ISTOR NETWORKS INC	12	RACKMOUNT SOLUTIONS	13		
DATA NETWORKS INTERNATIONAL	23	KACE	19	RACKMOUNT SOLUTIONS	15		
DATA RELIANCE CORPORATION	25	KDS	23	RACKMOUNT SOLUTIONS	16		
DATAMEDIA SOURCE	23	L & L SYSTEMS	23	RECORTEC	8		
DIGILIANT	9	MARX SOFTWARE SECURITY	11	RECURRENT TECHNOLOGIES	26		

## Upcoming IT Events

## - JANUARY -

## Storage Visions 2007 Conference

January 6-7  
Las Vegas, Nev.  
[www.storagevisions.com](http://www.storagevisions.com)

## WCA International Symposium &amp; Business Expo

January 16-19  
San Jose, Calif.  
[www.wcai.com](http://www.wcai.com)

## Florida Educational Technology Conference

January 24-26  
Orlando, Fla.  
[www.fetc.org](http://www.fetc.org)

## - FEBRUARY -

## Gartner Wireless &amp; Mobile Summit

February 5-7  
Dallas, Texas  
[www.gartner.com/2\\_events/conferences/ra10.jsp](http://www.gartner.com/2_events/conferences/ra10.jsp)

## RSA Conference

February 5-9  
San Francisco, Calif.  
[www.rsaconference.com/2007/US](http://www.rsaconference.com/2007/US)

## SCALE 5x - 2007

Southern California Linux Expo  
February 10-11  
Los Angeles, Calif.  
[www.socallinuxexpo.org](http://www.socallinuxexpo.org)

## Gartner Business Process Management Summit

February 26-28  
San Diego, Calif.  
[www.gartner.com/2\\_events/conferences/bpm3.jsp](http://www.gartner.com/2_events/conferences/bpm3.jsp)

## Comptel Plus Spring 2007 Convention &amp; Expo

February 27-March 2  
Las Vegas, Nev.  
[www.comptel.org](http://www.comptel.org)

## - MARCH -

## DAMA International Symposium

March 4-8  
Boston, Mass.  
[www.wilshireconferences.com](http://www.wilshireconferences.com)

## VoiceCon

March 5-8  
Orlando, Fla.  
[www.voicecon.com](http://www.voicecon.com)

## Gartner Business Intelligence Summit

March 12-14  
Chicago, Ill.  
[www.gartner.com/2\\_events/conferences/bi5.jsp](http://www.gartner.com/2_events/conferences/bi5.jsp)

## Boston SecureWorld Expo

March 14-15  
Boston, Mass.  
[www.secureworldexpo.com](http://www.secureworldexpo.com)

## TelecomNEXT

March 18-21  
Las Vegas, Nev.  
[www.telecom-next.com](http://www.telecom-next.com)

**Advertising Sales:** Susan Miller / Grant Ossenkopf  
Julie Lausterer / Eric Cobb / David Bartholomai  
Rob Downey / Blake Johnston / Joy Caldwell

**Editorial Staff:** Ronald D. Kobler / Corey Russman  
Michael Dempsey / Sheila Allen / Joy Martin  
Rod Scher / Christopher Trumble / Calvin Clinchard  
Katie Sommer / Michael Sweet / Katie Dolan  
Raejean Brooks / Sally Curran / Nate Hoppe  
Trista Kunce / Linné Ourada / Vince Cogley  
Ashley Finter / Tara Simmons / Leah Houchin  
Patrick Kean / Holly Zach / Barbara Ball / Marty Sems  
Kylene Dickey / Josh Gulick / Andrew Leibman  
Jennifer Johnson / Nathan Lake / Blaine Flamig

**Art & Design:** Lesa Call / Fred Schneider  
Carrie Benes / Ginger Falldorf / Sonja Warner  
Aaron Weston / Aaron Clark / Lori Garris  
Jason Codr / Andria Cogley / Erin Rodriguez  
Lindsay Anker

**Web Staff:** Dorene Krausnick / Laura Curry  
Kristen Miller / Jessie Danekas

**Subscriptions**  
(800) 819-9014 (800) 247-4880  
(402) 479-2170 (402) 479-2141  
FAX: (402) 479-2120

**Editorial Staff**  
131 W. Grand Drive • Lincoln, NE 68521  
[editor@processor.com](mailto:editor@processor.com)  
FAX: (402) 479-2104

## MarketPlace NEWS



## More Penalties For DRAM Price Fixing

A FIFTH SAMSUNG EXECUTIVE, Young Hwan Park, has pleaded guilty to charges of working with other DRAM manufacturers to fix prices. Park will spend 10 months in prison and pay a \$250,000 fine for his role in the price-fixing scandal. Park reportedly was involved in meetings with other DRAM manufacturers where the manufacturers agreed on prices to charge for DRAM from April 2001 to mid-2002. Samsung has already paid a \$300 million fine related to the case, while Hynix Semiconductor has been fined \$185 million, Infineon Technologies \$160 million, and Elpida Memory \$84 million.

## Yahoo! China Wins Lawsuit

YAHOO! CHINA'S OWNER, Alibaba.com, has won a lawsuit it filed against a Chinese search engine alleging unfair competition. Yahoo! China claimed that Qihoo 360safe software was designed to consider the Yahoo! Toolbar malicious software and a security risk, prompting users to uninstall the toolbar. Beijing's Second Intermediate Court ordered Qihoo's owners to stop the unfair competition, compensate Yahoo! for damages, and make a public statement clarifying its incorrect allegations that Yahoo! Toolbar is a malicious program.

## Virtualization Benchmark Outlined

IBM AND INTEL HAVE developed a benchmark for virtualization users. The benchmark, called vConsolidate, runs multiple instances of workloads and measures processor and memory throughput efficiency on two or more servers. The new benchmark has been submitted to SPEC (Standard Performance Evaluation Corp.), which earlier this year created a working group to develop a virtualization standard. The group will now consider IBM and Intel's development and, if it deems the benchmark acceptable, could develop it into an industry-standard benchmark sometime during the first half of next year.

## Security Threats To Change In 2007

IN 2007, organized criminals will join forces with the hacker community to form a more organized cybercrime economy that buys, sells, and trades commodities such as cyberattack toolkits and exploits of zero-day vulnerabilities. Those predictions were made by security firm Websense. "Organized criminals are realizing that the Internet has been a largely untapped resource in terms of generating real profit—until now," says Dan Hubbard, vice president of security research for the company. Websense also predicts that Web 2.0 sites such as MySpace and Wikipedia will be hot spots for attacks next year because the changing nature of the content on those sites makes it difficult to monitor and secure.

## Possible Vista Flaw

A POSSIBLE FLAW in the new Windows Vista operating system is being looked into by Microsoft after the Dec. 15 posting of a proof-of-concept exploit code to a Russian Web site. After the code was posted, researchers at security vendor Determina reported it to Microsoft. In addition to Windows Vista, Win2000 SP4, Windows Server 2003 SP1, and WinXP SP1 and SP2 are also affected by the vulnerability. The flaw could potentially allow an authenticated

user to gain increased privileges and execute malicious code. According to Microsoft, there have not been any attacks using the flaw, but it continues to monitor developments.

## AMD Cuts Prices

IN A REPORT BY American Technology Research, analyst Doug Freedman reports that AMD has cut prices in the channels, and favorable terms have been offered to others. The price cuts have come as the result of competition from Intel, among other things. "We believe AMD has made the following decisions in order to move inventory: 1) a price cut to channel partners; we saw prices decline [about] 8% earlier this week, and 2) favorable pricing to server customers that are in competitive situations," Freedman said.

## Hiring Outlook For The New Year

ACCORDING TO A SURVEY CareerBuilder.com conducted, of the 2,600 hiring managers polled, 40% said they will hire more permanent, full-time workers at their companies this year, while another 40% plan to keep the same number of employees. Only 8% expect to eliminate jobs at their firms. About 13% of the recruiting that companies will do to attract new workers will be for IT employees, the survey said. The sectors expecting the most recruiting include health care (24%) and clerical and administrative work (19%). The survey also showed the hiring managers expect 2007 to bring higher pay, more overseas hiring, and more work arrangements with greater flexibility.

## Phishers Using New Techniques

ACCORDING TO A Symantec blog entry, Zulfikar Ramzan, with the company's Advanced Threat Research group, says phishers have started using text messaging and VoIP as new ways to launch attacks. Hackers are turning to "vishing," or voice phishing, because VoIP is an inexpensive way to dial lots of phone numbers. Ramzan also says phishers are using text messaging in "smishing," or SMS phishing attacks. The attacker sends a text message to the victim saying the individual will be charged a certain amount per day unless he goes to a Web site to cancel an order that is actually fictitious. While at the Web site, the victim becomes infected with malicious software.

## Nortel Accounting Scandal Settlements

NOW THAT TWO U.S. federal district court judges have approved it, some shareholders of Nortel Networks are receiving a settlement worth \$2.45 billion in the accounting scandal case they brought against the company. According to the terms of the settlement,

Nortel will pay \$575 million in cash and the rest of the total in Nortel shares, which as of press time were valued at around \$1.65 billion. Nortel insurers will pay an additional \$228.5 million. More money may come later, as former Nortel executives charged with accounting violations are still awaiting litigation. Canadian courts have yet to resolve pending litigation in the accounting scandals.

## AT&amp;T Tries To Win FCC Approval In BellSouth Acquisition

TO WIN THE FCC's approval of its proposed \$85.8 billion acquisition of BellSouth, AT&T is willing to meet stricter conditions than previously proposed. Four FCC commissioners are in a stalemate over conditions, but AT&T hopes its new concessions will persuade them to OK the merger. AT&T says it will give competitors access to its network by freezing prices and price caps for some wholesale rates for 48 months instead of the 30 months originally proposed. It will also offer standalone basic high-speed Internet access for \$19.95 a month, will not charge content providers to speed their services to customers for up to 24 months, and will sell some wireless airwaves in the 2.5GHz band.

## Apple Files Report, Defends CEO

APPLE HAS filed its delayed annual report following an investigation into the backdating of stock options. In the report, Apple said that financial results for the last three years would be restated, and the company would take a charge of \$84 million. The probe involves several suspect stock option grants, made between 1997 and 2002, that involved former Apple executives. The grants in question had been backdated with more favorable dates to financially benefit the stock holder. The report also said, "The board of directors is confident that the company has corrected the problems that led to the restatement, and it has complete confidence in Steve Jobs and the senior management team."

## Intel To Produce Documents In AMD Case

A U.S. FEDERAL District Court has ordered Intel to produce documents related to the company's international business practices. The order came as part of an antitrust case filed against Intel by competitor AMD. In a letter to Judge Joseph Farnan, Intel has said it will not file an objection to the order. AMD calls the order a "significant legal victory" in the case, which was originally filed in June 2005 claiming that Intel has used a variety of incentives to persuade PC makers to use chips from Intel chips instead of AMD, hurting AMD's business.

## WATCH THE STOCKS

This information provides a quick glimpse of current and historical stock prices and trends for 16 major companies in the technology market.

Company	Symbol	Year Ago	Dec. 22 \$	Dec. 29 \$	% change from previous week
Avaya	AV	\$10.80	\$13.54	\$13.98	▲ 3.25%
BEA Systems	BEAS	\$9.56	\$12.61	\$12.58	▼ 0.24%
Computer Associates	CA	\$28.34	\$22.73	\$22.65	▼ 0.35%
Cisco Systems	CSCO	\$17.29	\$26.93	\$27.33	▲ 1.49%
Dell	DELL	\$30.63	\$25.45	\$25.09	▼ 1.41%
Electronic Data Systems	EDS	\$24.43	\$27.27	\$27.55	▲ 1.03%
Google	GOOG	\$426.69	\$455.58	\$460.48	▲ 1.08%
HP	HPQ	\$28.80	\$40.63	\$41.19	▲ 1.38%
IBM	IBM	\$83.04	\$95.25	\$97.15	▲ 1.99%
Intel	INTC	\$25.44	\$20.08	\$20.25	▲ 0.85%
McAfee	MFE	\$27.48	\$28.29	\$28.38	▲ 0.32%
Microsoft	MSFT	\$26.39	\$29.64	\$29.86	▲ 0.74%
Oracle	ORCL	\$12.28	\$17.11	\$17.14	▲ 0.18%
Red Hat Software	RHT	\$28.22	\$22.46	\$23	▲ 2.4%
Sun Microsystems	SUNW	\$4.32	\$5.46	\$5.42	▼ 0.73%
Symantec	SYMC	\$17.31	\$20.83	\$20.85	▲ 0.1%

NOTE: This information is meant for reference only and should not be used as a basis for buy/sell decisions.

# The Benefits Of Thin Clients

## Trim The Fat From Your Desktop Infrastructure

by Sixto Ortiz Jr.

• • •

**IN SPITE OF THEIR INCREASING power and plummeting prices, modern desktop PCs also come with their own baggage, be it possible security flaws, high maintenance costs, or inherent difficulties in maintaining consistent desktop environments.**

Many data center and IT administrators are looking to thin clients as a way to reduce desktop TCO while enabling their installed user base to get their work done. After all, if your installed user base's primary use for desktop PCs is email, Internet, and a smattering of corporate applications—such as SAP—deploying thin clients might make sense and provide significant TCO savings.

### Thin Clients Arrive

In one form or another, thin clients have been around since the beginnings of the computing industry. Back in the day when mainframes dominated the IT landscape, users interacted with the heavy iron behemoths via simple "dumb" terminals. In today's context, thin clients allow end users to use a variety of networked applications—even operating systems that are downloaded remotely—without having those applications installed and managed on individual machines.

In that sense, the modern corporate network has supplanted the mainframe as the intelligence behind the client.

Thin clients, according to proponents, bring a number of advantages to the table. For starters, they are centrally managed, so the administration headaches that come with a large population of traditional

desktops that must be individually tended to go away.

Thin clients are also known for greater reliability, longer life spans, and lower upfront costs than run-of-the-mill desktops because they have fewer parts (and thus less complexity). Thin clients have no hard drives, so arguably there is enhanced security because what the data users manipulate is all stored on centralized servers. Finally, thin clients consume less power, and their pint-sized form factors result in significant space savings.

But, thin clients also have a dark side. Like their "dumb terminal" ancestors, if the intelligence (the thin-client servers and network) goes down, the supported clients also go down. The no-frills hardware configurations found in thin clients leave little room for flexibility when it comes to running any applications locally on the client. And, a thin-client environment brings its own set of management and administrative headaches. But in certain situations, thin clients make a lot of sense.

### Wyse Technology S90 Thin Client

Founded in 1981, Wyse Technology provides a flexible array of thin clients running a variety of OSes, including Windows CE,



### SNAPSHOT

#### Wyse Technology S90 Thin Client

A lightweight, compact, fanless, and diskless unit managed by Wyse Device Manager

[www.wyse.com](http://www.wyse.com)

Windows XPe (XP Embedded), Wyse V6 Linux, and Wyse's own Thin OS.

For example, Wyse's S90 thin client runs WinXPe on an AMD Geode GX CPU. This small computer is only 1.38 x 6.94 x 4.75 inches (HxWxD) and weighs just 6 pounds when shipped. The system features a standard 512MB of flash and 256MB of DDR RAM and includes a variety of I/O ports, including four USB 2.0 ports, one serial port, VGA video terminal, and support for keyboard and PS/2 mouse.

Networking support for the S90 includes 10/100 Ethernet and an optional USB wireless adapter supporting 802.11a/b/g with WEP, WPA, or IEEE 802.1x security and authentication.

Other Wyse thin clients running WinXPe include the Wyse V90, 9150SE, and 941GXL.

### BOSANOVA All-In-One XPe & RBT-070 Thin Clients

BOSANOVA's All-in-One XPe combines the computer and display into a single unit, resulting in significant space savings for businesses where desktop real estate is at a premium.

The All-in-One XPe runs WinXPe on a VIA Eden 733MHz CPU and features

BOSANOVA's own TN5250e terminal emulation software for connecting to IBM iSeries and AS/400 servers. The client also features Remote Desktop Protocol 5.2 and ICA 9.0, enabling connectivity to Windows



### SNAPSHOT

#### BOSANOVA All-in-One XPe & RBT-070 Thin Clients

All-in-One XPe: \$1,249

RBT-070 (pictured): \$295

Flexibility in configurations, from a pint-sized, less than one-pound client to an all-in-one space saver

[www.bosanova.net](http://www.bosanova.net)

Terminal Servers and Citrix servers.

Other features include 256MB of RAM and 512MB of flash RAM, one serial port, one parallel port, two USB 2.0 ports, and two PS/2 ports for a keyboard and mouse. Networking features include 10/100 Ethernet, autosensing, WakeOnLAN, PXE boot, and optional wireless networking using an adapter. And, the 17-inch LCD also features touchscreen capabilities.

The company's RBT-070, weighing less than 1 pound, runs WinCE 5.0 powered by an AMD Geode GX 533 CPU. The unit can be mounted or placed on a desktop and features 64MB of flash memory and 128MB of RAM, supports both ICA and RDP protocols, and also features 10/100 Ethernet networking, WakeOnLAN, PXE booting, and optional 802.11b/g wireless networking.

### HP Compaq t5720 & t5525 Thin Clients

HP is one of the tech world's titans, so it should come as no surprise that it is playing in the thin-client marketplace. The company



### SNAPSHOT

#### Neoware c50 & e370 Thin Clients

Neoware c50 (pictured): Starts at \$299 for Linux, \$359 for WinCE, and \$479 for WinXPe

Neoware e370: Starts at \$1,099 for Linux, \$1,049 for WinCE, and \$1,149 for WinXPe

From no-frills to a fully integrated (LCD and computer) thin client

[www.Processor.com/Neoware](http://www.Processor.com/Neoware)



### SNAPSHOT

#### HP Compaq t5720 & t5525 Thin Clients

HP Compaq t5720 (pictured): starts at \$499

HP Compaq t5525: starts at \$319

A wide range of thin models from one of tech's mainstay companies

[www.Processor.com/HPt5720](http://www.Processor.com/HPt5720)  
[www.Processor.com/HPt5525](http://www.Processor.com/HPt5525)

manufactures and markets a series of thin clients running a number of OSes, including Debian Linux 3.10, WinXPe, Linux 2.4, and Windows CE 5.0.

For example, the HP Compaq t5720 thin client is powered by AMD's Geode NX 1500 CPU (runs at 1GHz) and comes with 256 or 512MB of DDR SDRAM and 512MB or 1GB of flash memory. The

t5720 also features two front and two rear USB ports, as well as PS/2, serial, parallel, audio-in, audio-out, video, cable lock, and RJ-45 ports.

Supported protocols include RDP and ICA as well as a number of terminal emulations. The clients are also expandable via the use of an optional PCI Expansion Module and feature integrated graphics via the SiS74iGX Integrated/UMA video card. The t5720 runs WinXPe SP2.

If you're looking for a Linux thin client, the HP Compaq t5525 thin client runs the Linux kernel (version 2.4) powered by a VIA Eden 800MHz CPU and 128MB of DDR SDRAM. According to HP, 16MB of system RAM is reserved for video graphics. This client also includes 64MB of flash memory, supports the RDP and ICA protocols (as well as terminal emulations), and runs WinCE 5.0.

### Neoware c50 & e370 Thin Clients

Neoware's c50 thin client is a flexible, no-frills machine designed for entry-level service. The client runs a variety of OSes, including Linux (based on Red Hat),

WinCE, WinXPe, and WinXPe Plus, using a VIA 400MHz CPU. Flash memory is available from 32 to 512MB (although models running XPe Plus feature no flash memory) and 128 to 512MB of DDR RAM.

The c50 supports both RDP and ICA protocols and video resolutions up to 1,600 x 1,200 at 32-bit color. Software includes Basic VT or TeemTalk for terminal emulation (TeemTalk is Neoware's emulation package) and Netscape Navigator (Linux configuration) or Internet Explorer (Windows configurations).

The company's e370 thin client is another example of a fully integrated device. The integrated LCD measures 17 inches and supports 1,280 x 1,024 DVI resolution. Available flash memory includes 64MB (for Linux and WinCE models) or 256MB (WinXPe model), while DDR RAM configurations include both 128 and 256MB. Again, supported protocols include RDP and ICA, while terminal emulation is provided with Neoware's TeemTalk. □

To see Processor Showcase advertisements for products in this category, look online at [www.Processor.com](http://www.Processor.com) and find the Thin Client ads under End Nodes.

## Introducing Room Alert™ 26W...

Monitoring Real-Time Logging, Automatic

Temperature, Humidity, Power, Flood & Much More with Server Shutdown, Alerting & Wireless Sensor Monitoring!



Introductory Price...

**\$995**

RA26W-WS1-RAS  
(Thru Dec 31, 2006. List \$1,195)

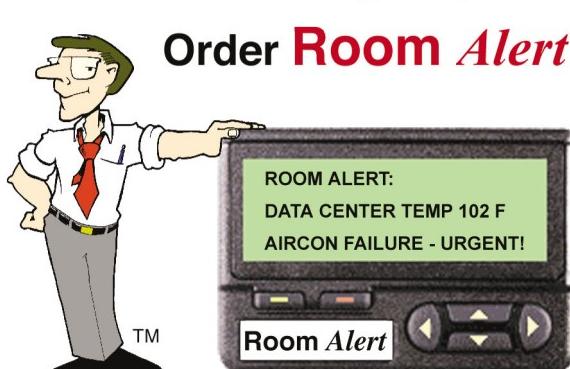
### Advanced Features, Extreme Reliability & Huge Value

- Easy Ethernet ‘Plug and Play’ setup for immediate IT Environment Monitoring.
- Includes built-in Digital Temperature, Digital Humidity, Power & Flood sensors.
- Monitors Main Power & includes a built-in Uninterruptible Power Supply (UPS).
- Advanced alerting by email, email-to-SMS, SNMP, webpage update & much more.
- Use Room Alert 26W’s built-in web server or the powerful PageR Enterprise software (*included at no charge*) to monitor *unlimited* Room Alert 26W wireless hubs & sensors.
- Room Alert 26W allows real-time monitoring, logging, one click data export, advanced alerting, Fahrenheit/Celsius, high/low watermarks, wireless sensor monitoring & much more.
- Use Room Alert 26W with or without a host system. That’s right... **No PC Required!**

INCLUDES: Room Alert 26W Rack Unit (1U 19”), built-in Digital Temperature sensor, built-in Digital Humidity sensor, built-in Main Power sensor, built-in Flood sensor (just add Flood cable), external Digital Temperature sensor, external Room Entry sensor, 6 External Digital Sensor Ports (RJ-11), 16 Switch Sensor Channels, unlimited Wireless Sensor capacity, LED Sensor Status & Wireless Strength indicators, built-in Uninterruptible Power Supply (UPS), Wireless Sensor Hub, Ethernet Connection (RJ-45), Expansion Port (RJ-45), 10’ Ethernet cable, 5V Power Adapter (110/240V, RoHS), built-in Web Server, built-in Alert Notifications, SNMP Trap & Query enabled, bundled PageR 20 Object Enterprise license, CD installation & resource media, printed User’s Guides & Reference Manuals, 12 months of Maintenance Support & Update Service, ‘30-Day Satisfaction Guarantee’. Additional sensors available.

**Order Room Alert 26W Now For Immediate Delivery...**

**1.888.220.6700**



Order Online at [www.EnvironmentMonitor.com](http://www.EnvironmentMonitor.com)

 **AVTECH**  
Software

[www.AVTECH.com](http://www.AVTECH.com)

[www.RoomAlert.com](http://www.RoomAlert.com)

Room Alert, AVTECH, AVTECH Software and the AVTECH System Manager are a Trademark or Registered Trademark of AVTECH Software, Inc.



MORE PRODUCTS, BETTER SERVICE, GUARANTEED.

GO STRAIGHT TO THE SOURCE!

## FOCUS ON WHAT MATTERS MOST

GET DUAL-CORE INTEL XEON PROCESSORS IN SERVERSDIRECT SYSTEMS AND CONCERNTRATE ON BUSINESS OPPORTUNITIES  
INSTEAD OF SERVER HEADACHES



STARTING PRICE  
**\$2,499**

### SDR-3500T 3U 64-BIT XEON DATABASE SERVER

Designed to provide outstanding performance with dual-core Xeon® 5000/5100, ideal solution for storage and mission critical business application server

#### FEATURE HIGHLIGHTS:

- Intel Xeon 5050 3.0GHZ Dual Core Processor (Dual Processor Option)
- 3U Chassis with 800W Redundant Power Supply
- Intel® 5000P (Blackford) Chipset
- Kingston 1024MB 667MHz DDR2 ECC FB-DIMM(2pcs x 512MB)
- Seagate 400GB SATA-II 16MB Cache 7200RPM

- 16 x 1" Hot-swap SATA Drive Bays
- ATI ES1000 Graphics with 16MB video memory
- Intel® (ESB2/Gilgal) 82563EB Dual-port Gigabit Ethernet Controller
- RAID 0, 1, 5, 10 Support

### 1U ENTRY LEVEL SERVER

1U Pentium® D servers support the latest dual-core architecture that delivers unmatched multi-tasking capabilities in an uni-processor environment



**\$999**

- 1U Rackmount Chassis with 300W Power Supply
- Intel® Pentium® D 930 3.0GHZ Dual Core 800FSB
- Intel® E7230 (Mukilteo) Chipset
- Kingston 1024MB 667MHz DDR2 ECC (2pcs x 512MB)
- Seagate 250GB SATA-II 7200RPM hard drive
- 2 x 1" Hot-swap SATA Drive Bays
- ATI RageXL graphics, 8MB
- 2x Intel® 82573V (Tekoa) PCI-e Gigabit LAN Ports
- RAID 0, 1

SKU# SDR-1110T

### 4U TOWER/RACKMOUNT 64-BIT XEON ENTERPRISE SERVER

Powered by the latest dual-core Xeon 5000/5100® sequence processors, versatility in either a tower or rackmount 4U form factor and support enterprise-class



**\$3,999**

- Intel Xeon 5050 3.0GHZ Dual Core Processor (Dual Processor Option)
- 4U Rackmountable / Tower
- Intel® 5000X (Greencreek) Chipset
- Kingston 1024MB 667MHz DDR2 ECC FB-DIMM (2pcs x 512MB)
- 8pcs x Seagate 400GB SATA-II 16MB Cache 7200RPM
- 3Ware 9550SX-8port RAID Controller Card
- GeForce 6200 TC 128MB OB 256M support DDRTV-out PCI-E
- Intel® (ESB2/Gilgal) 82563 Dual-port Gigabit Ethernet Controller

SKU# SDP-7045A-TB

### COST EFFECTIVE 2U SERVER

Businesses with 50 or more employees seeking maximum performance, storage room, expandability and uptime



**\$1,599**

- Intel Xeon 5050 3.0GHZ Dual Core Processor (Dual Processor Option)
- 2U Chassis with 600W Power Supply
- Intel® 5000V (Blackford VS) Chipset
- Kingston 1024MB 667MHz DDR2 ECC FB-DIMM (2pcs x 512MB)
- Seagate 400GB SATA-II 16MB Cache 7200RPM
- 6 x 1" Hot-swap SATA-II Drive Bays
- ATI ES1000 Graphics with 16MB video memory
- Intel® (ESB2/Gilgal) 82563EB Dual-port Gigabit Ethernet Controller
- RAID 0, 1, 5, 10 support

SKU# SDR-2501T

### SDR-5500T 5U ADVANCED STORAGE SERVER

Powered by the latest dual-core Xeon 5000/5100® sequence processors, the absolute best storage capacity available in a 5U format



**\$6,799**

- Intel Xeon 5050 3.0GHZ Dual Core Processor (Dual Processor Option)
- 5U Chassis with 24 hot-swap bays & 950W redundant power supply
- Intel® 5000P (Blackford) Chipset
- Kingston 1024MB 667MHz DDR2 ECC FB-DIMM (2pcs x 512MB)
- 12pcs x Western Digital 400GB SATA RAID Drive
- 1pc x 3Ware 9550SX-12 port RAID Controller Card
- ATI ES1000 Graphics with 16MB video memory
- Intel® (ESB2/Gilgal) 82563EB Dual-port Gigabit Ethernet Controller
- RAID 0, 1, 5, 10 support

SKU# SDR-5500T

### SERVERS DIRECT CAN HELP YOU CONFIGURE YOUR NEXT HIGH PERFORMANCE SERVER SYSTEM - CALL US TODAY!

Our flexible on-line products configurator allows you to source a custom solution, or call and our product experts are standing by to help you assemble systems that require a little extra. Servers Direct - your direct source for scalable, cost effective server solutions.

**1.877.727.7887** | [www.serversdirect.com](http://www.serversdirect.com)

Intel, Intel logo, Intel Inside, Intel Inside logo, Intel Centrino, Intel Centrino logo, Celeron, Intel Xeon, Intel SpeedStep, Itanium, Pentium, and Pentium III Xeon are trademarks of Intel Corporation or its subsidiaries in the United States and other countries.



Xeon®  
inside™

# Improved Connectivity For Servers & Storage

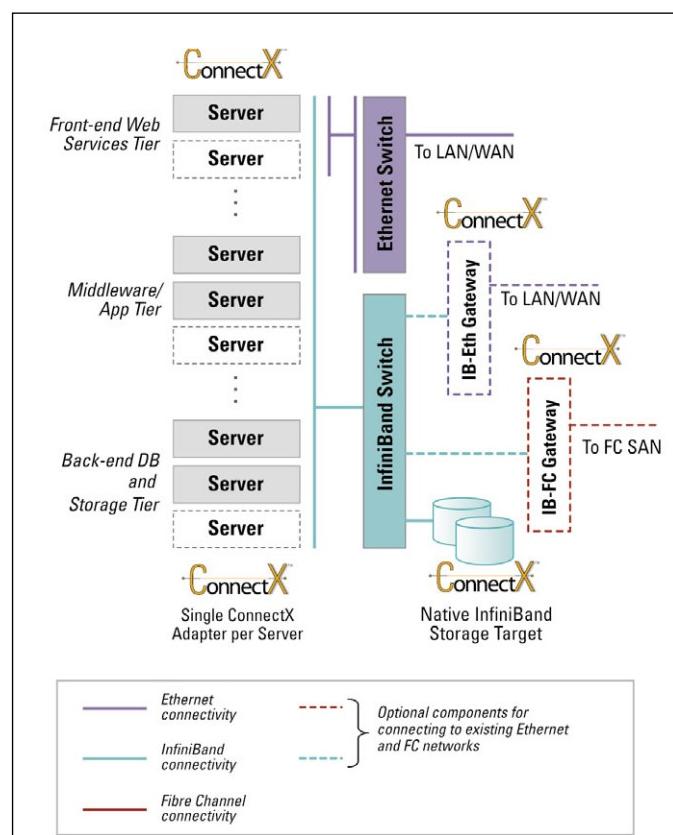
**Mellanox Introduces 4th-Generation InfiniBand Architecture**

**THE GROWING DEMAND** for better application performance is driving the increased adoption of clustered servers and server virtualization on top of multicore processors. But connecting these servers in a way that maximizes their performance poses I/O connectivity challenges. Many current solutions are inadequate for the demands of tomorrow's server and storage networks.

Mellanox, which is known for its advances in InfiniBand technology, has created the new ConnectX architecture to address the data center need for cost-effective bandwidth, improved quality of service, and protection of an enterprise's infrastructure investment. With ConnectX-based solutions, you're ensured of incremental and demand-based I/O growth and scaling well into the future.

The ConnectX architecture enables integration of extraordinary levels of functionality into a single adapter chip. It supports eight lane PCI Express v1.1 and v2.0 interfaces as the host interface. For network and storage connectivity, it supports two network ports, and each port can be flexibly

configured as either a 4X InfiniBand port or a 10 Gigabit Ethernet XAUI/CX4 or



A typical deployment scenario, with ConnectX-based server blade mezzanine cards in server blades with one InfiniBand port and one 10Gb Ethernet port.

XFI port. The InfiniBand port supports single, double, and quad data rates (SDR, DDR, and QDR) delivering 10, 20, and, eventually, 40Gbps full duplex bandwidth.



The network ports support either InfiniBand physical layer semantics or XAUI semantics.

With ConnectX, enterprises using Fast or Gigabit Ethernet for connectivity and Fibre Channel-based SANs can avoid forklift upgrades as they move to higher performance and unified connectivity options. And, compared to other options, ConnectX excels in its ability to provide stringent levels of services to applications and virtual machines in virtual server environments.

The ConnectX architecture offers the necessary building blocks for designing leading price/performance server and storage connectivity solutions. Service-oriented I/O ensures scalable and granular quality of service for a converged set of data center applications, in both native operating system and virtualized server environments. Multiple network and storage connectivity options on a single ConnectX adapter enhance the server OEM's target markets and time to market. And end users can depend on ConnectX solutions for incremental and demand-based I/O growth and scaling.

## The ConnectX architecture features:

### Network Acceleration

- TCP, UDP, IP Checksum Offload
- Large send offload
- Receive side scaling
- Split header and payload processing
- Multiple send and receive queues
- Interrupt moderation
- PCI Express MSI-X
- Remote DMA
- Reliable and unreliable connected modes
- Transport offload

### Quality Of Service

- Marking, shaping, and queuing (including IEEE 802.1p and DiffServ)
- Eight queues per port; end-to-end congestion control
- Granular flow control

### High Availability & Manageability

- IEEE 802.3a/d link aggregation/channel bonding
- IBA partitioning and IEEE 802.1q VLAN tagging
- PXE-compliant remote boot
- ASF and IPMI pass-through
- Counters for popular MIBS applications

#### Mellanox ConnectX

InfiniBand architecture designed to provide cost-effective bandwidth, improved quality of service, and protection of an enterprise's infrastructure investment

(408) 970-3400

[www.Processor.com/ConnectX](http://www.Processor.com/ConnectX)



# Looking For Products?

## Check Out The All-In-One Search At Processor.com

**THE ALL-IN-ONE SEARCH AREA** on our Web site, [www.Processor.com](http://www.Processor.com), makes it easy to find detailed information on products with just one click. Simply find the product category you need (categories are sorted under five areas: Physical Infrastructure, Communications, End Nodes, Software, and Services) and click the link.

Each resulting page displays all the information regarding that product category. Information is sorted by Product Showcase (concise product listings that include product photos and a brief description), New Product Overviews

(more detailed product-focused editorial articles), and Most Recent Articles (more general articles covering products and information related to that category).

If you know the product name or manufacturer you want, click the Showcase Ads link under the Search Only section in the All-In-One Search area. There you'll find options to search By Advertiser and By Word/Phrase Search. By Advertiser lets you quickly link to all products offered by a specific manufacturer. By Word/Phrase Search lets you search for specific products, features, or other keywords.

## STORAGE

DECEMBER 8, 2006

# A Better Way To Store Data

Sans Digital's AccuRAID Series Offers New Rackmountable Storage Solutions

**THE NEW SANS DIGITAL AccuRAID Series** features rackmountable RAID storage solutions designed for file servers, backup, audio/video streaming, and digital video recording. Featuring hotswapable, 3.5-inch SATA I/II drive trays, these units can be scaled up to 9TB using the 2U 12-bay rackmount unit or 12TB using the 3U 16-bay rackmount unit.



These units can easily be configured to RAID levels 0, 1, 0+1, 3, 5, or 6 or to a simple JBOD configuration. The AccuRAID series also features a built-in Ethernet management console and email server, which means you can actually configure your system via a Web browser and receive emails if a problem occurs. Featuring durable, heavy-duty steel housing and a user-friendly LCD panel, the AccuRAID series is the perfect storage solution for all of your data storage needs.

### Features:

- Supports Dual-Channel SCSI U320 (AR212S/AR316S) or Dual 4Gbps Fibre Channel (AR212F4/AR316F4)
- Intel 80321 400MHz 64-bit RISC processor with 256MB onboard ECC cache memory (upgradeable to 1GB)



- Areca SATA II RAID 6 ASIC engine provides the highest level of data protection
- Tagged command queuing for 256 commands; allows for overlapping data streams
- OS-independent/host transparent RAID solution
- RAID 6 can tolerate multiple drive failures without downtime or data loss, which helps to provide the highest level of data protection
- Online Array roaming, online RAID level/stripe size migration, and online capacity expansion
- System management through LCD control panel, Ethernet, and RS-232 port
- Supports the latest SATA II 750GB hard drives

#### Sans Digital AccuRAID Series

Rackmountable storage that can be scaled up to 12TB

(800) 980-1988

[www.Processor.com/SansDigital2](http://www.Processor.com/SansDigital2)



# Vista: Why Should SMEs Care?

*Continued from Page 1*

the default method for installing the operating system, and the software developer has moved away from its previous hardware-dependent system. These changes could dramatically reduce the number of images required to deploy new PCs and update existing machines.

Another major improvement is in user system configuration, which has been tweaked in response to compatibility and usability complaints that arose with previous versions of Windows.

Most notably, Vista has a new user interface, called Windows Aero, that has users navigating through the operating system in a completely different way. The 3D, animated view of applications and documents is likely to catch on with other software developers. In other words, if a company sticks with older versions of Windows for too long, it could find itself behind the

## Windows Vista vs. Windows XP

Microsoft has noted that Vista has a number of improvements over its predecessor:

- Enhanced security protection through better antispyware and antivirus technology
- Improved performance through quicker startup and shut down as well as faster application and file loading
- Better migration tools that make transition onto a new PC easier
- Enhanced backup scheduling with a wizard

times in terms of what users want, especially if employees are using Vista at home.

Vista's role with NAP (Network Access Protection) has been touted by Microsoft, but companies should closely examine whether it makes sense for their operations, notes Dan Clark, vice president of marketing for security firm Lockdown Networks ([www.lockdownnetworks.com](http://www.lockdownnetworks.com)).

"Vista is important because it includes functionality needed to deploy Microsoft NAP," he says. "However, no enterprise will be 100% NAP-capable, so while NAP is an important feature to consider, companies must also evaluate complementary access control solutions to address non-NAP devices." He adds that these include Linux ([www.linux.org](http://www.linux.org)), Apple's OS X ([www.apple.com](http://www.apple.com)), Unix ([www.unix.org](http://www.unix.org)), and embedded devices, as well as many portable devices that pull IP addresses on the network.

Also compelling for enterprise IT departments are features such as improved client-side caching of data that's stored on a server, an updated synchronization engine, and broad IPv6 support.

Which features prove to be the most useful will depend on the company. For example, Joshua Kerr, chief executive of software firm Ideal Science ([www.idealscience.com](http://www.idealscience.com)), is looking forward to using the new search and organization functions the most.

"We manage a very large amount of data, and it would be good to have an easier way to organize it," he says. Also, because Ideal Software develops applications, Vista's faster load times should be a boon for productivity.

"Basically, Vista will change the landscape in terms of computing," says Michael

## Processor.com

Silver, analyst at market research firm Gartner. "Because it's such a major overhaul, companies of every size should really be thinking seriously about how it might fit into their plans."

### Making The Transition

Although SMEs should care about Vista's release, it's likely that they'll take time in bringing Vista into their environments, says Silver.

**"Most companies will take at least 18 months to test applications before they're ready."**

-Gartner's Michael Silver

"Most companies will take at least 18 months to test applications before they're ready," he notes, adding that mainstream deployment should start next year. Many

**January 5, 2007**

SMEs will probably add Vista gradually, as they bring in new PCs.

"For most companies, it's cheaper to do it as they buy new machines," he says. "This will be especially true for companies that don't have an automated way to do an OS upgrade."

Factors that should go into the decision about when to begin bringing Vista into a company include looking at the benefits of the system and how long an SME can reasonably expect to stay on its current system. Those running on Win2000 should move especially quickly toward Vista, Silver says.

"Microsoft will only support Windows 2000 through 2010, which sounds like a long time until you realize how long it takes to do a migration," he says. Also, many software vendors are already reducing their support for that particular system version.

Forrester Research has noted that numerous companies have only just made the switch to WinXP a few years ago, and that could delay adoption of the new system. Although there's little need to rush into employing Vista, analysts do note that companies should be doing at least some planning and thinking about a time frame that might work for integration. □

## Now Featuring

Included in the enterprise version of Windows Vista:

**Domain Join:** Allows servers to join together or to a workgroup

**Windows Shadow Copy backup:** Makes snapshots of system volumes, so open files can be backed up and allows users who store their docu-

ments in shares on Windows servers to recover previous versions themselves

**Built-in diagnostics tools:** Automated tools that constantly monitor the system for errors

**Windows Defender:** Does spyware scanning and looks for other security threats and then recommends actions

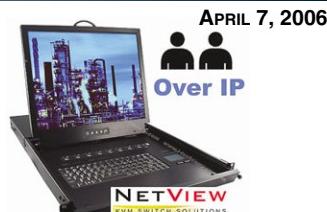
**Windows Easy Transfer:** Shuttles files, data, settings, and media from one computer to another

**Instant Search:** Integrated throughout the system, the function allows a users to type a file name, keyword, or text within a document to get results about where the file resides on the drive or in the network

### KVM & Console Access

[www.Processor.com/i-Tech75](http://www.Processor.com/i-Tech75)

Rackmount LCD Drawer w/KVM Over IP  
**\$1900**  
New Product!



#### i-Tech SuperStore for Rackmount LCD Console Drawer

- 15", 17", 19" & 20" is also available
  - Optional with 8/16 ports KVM
  - New integrated with Remote Access via CAT5 and via IP
  - New SUN Solaris Rackmount Keyboard
- Free Grd Shipping for all Rackmount LCD KVM Drawers!



30081 Ahern Ave  
Union City, CA 94587  
Phone: (888) 483-2418  
Fax: (510) 372-2736

DECEMBER 8, 2006

#### Powerful Storage Server

- Dual Core Xeon Storage Server
- Up To 36 Removable Drives
- Supports Windows Server or Linux
- Available in SATA, SCSI or SAS
- High End Raid Controller Card for Reliability and Performance
- Redundant Power Up To 1650W

**@Prolmage®**

13317 166th Street  
Phone: (562) 483-0111

Cerritos, CA 90703  
Fax: (562) 483-0110

### KVM & Console Access

[www.Processor.com/RackmountSolutions](http://www.Processor.com/RackmountSolutions)

DECEMBER 9, 2005



#### Rackmount TFT / LCD Drawer

Superb Quality • Unparalleled Versatility  
More choices than you ever dreamed of!

- 13", 15", 17", 19"
- Touch pad, track ball, real mouse
- With or without 4, 8 or 16 port KVM
- 1U or 2U for independent monitor/keyboard use

**RACKMOUNT SOLUTIONS, LTD**  
where customer service matters

915 S. Jupiter Road  
Garland, TX 75042  
Phone: (866) 207-6631  
Fax: (972) 276-6484

### Server

[www.Processor.com/Arbor](http://www.Processor.com/Arbor)

AUGUST 4, 2005

#### Professional Network Appliance Hardware Provider

Connecting Everything You Need

- MBX-1736 - Intel AMT & I/OAT Technology Ready
- Intel Pentium D processor up to 3.8GHz
- Memory up to DDR2 2GB
- 6 x PCI-E Gigabit LAN / 2 x PCI-E Gigabit LAN with By Pass
- Support SATA HDD (3Gb/s) / Graphic Mode LCM

**ARBOR®**  
Embedded and Network Computing

2032 Bering Dr.  
Phone: (408) 452-8900

San Jose, CA 95131  
Fax: (408) 452-8909

### Monitors & Displays

[www.Processor.com/Recortec5](http://www.Processor.com/Recortec5)

NOVEMBER 10, 2006



Processor readers special (1-9 units): **\$495**

#### 19" WIDE FORMAT LCD RACK MOUNT MONITOR

- 16:10 aspect ratio monitor mounts in 7U of rack space
- 1440 x 900 res, 300 cd/m<sup>2</sup> brightness, 500:1 contrast
- Analog RGB (ARGB) and Digital (DVI-D) video inputs
- 160 / 160 degree Horizontal/Vertical viewing angles
- 4 ms G-G response time, 16.2M colors

**RECORTEC**

1620 Berryessa Road  
Phone: (800) 729-7654

San Jose, CA 95133  
Fax: (408) 729-3661

### Storage

[www.Processor.com/SansDigital](http://www.Processor.com/SansDigital)

DECEMBER 8, 2006

**MR5S1/  
MR5CT1  
Priced Under  
\$1795**



- Model MR5S1: Ultra 320 Host Interface
- Model MR5CT1: 1394b, USB & eSATA Host Interfaces
- Supports SATA I (1.5Gb/s) & SATA II (3Gb/s) HD's
- RAID Hardware Design supports RAID 0, 1, 0+1, 3, 5, 6, JBOD & Hot Spare Disk (Multiple RAID selection).
- Automatic insertion/removal detection & rebuilding.
- Stylish, Durable Aluminum Design (6.9" Wx10.5" Dx7.3" H)

**SANS DIGITAL®**  
Your One-Stop Storage Solution Provider

10038 Pioneer Blvd.  
Santa Fe Springs, CA 90670  
Phone: (562) 949-1988  
Fax: (562) 949-3328

# Planning & Preparing For Vista

## Wisdom Says To Welcome The New Windows With Time, Caution

by Christian Perry

**UPON THE RELEASE** of Microsoft's Windows XP in the fall of 2001, enterprises braced themselves for the major changes required to upgrade from previous Windows versions. Five years later, with Windows XP humming along smoothly in all aspects of those same enterprises, a new wave of trepidation begins as Microsoft releases Vista ([www.microsoft.com](http://www.microsoft.com)), the much-anticipated successor to XP.

Yet, conditions aren't quite the same now as they were in 2001. Not only are machines far more powerful today than those that buckled under the weight of Windows XP, but Microsoft has launched impressive

deployment tools with Vista to help ease the transition. Still, adoption of Windows Vista will vary widely across enterprises of diverse sizes and needs as they determine the best method and time for introducing their users and processes to the new operating system.

### Sooner Or Later

According to Richard Whitehead, director of product marketing for Novell ([www.novell.com](http://www.novell.com)), any new desktop OS release sees companies ranging from those planning ultra-aggressive rollouts to those that won't even begin evaluating the OS until a full year or later after its release.

"Smaller organizations could pull the trigger more quickly due to lower migration costs in terms of time and effort, while most large enterprises are taking a 'wait and see' approach with Vista," Whitehead says. "Many [enterprises] are looking at it and testing the new features to understand what the hardware and training requirements will be for their user base. One other area of concern with adoption is software support because many vendors are requiring upgrades to support Vista, which complicate planning."

Although it would seem logical for companies to take a gradual approach to Vista while absorbing as much knowledge as possible before wide-scale deployment, there are certain conditions that could push companies to make the move sooner rather than later. Brian Carpizo, CEO of Junction Solutions ([www.junctionsolutions.com](http://www.junctionsolutions.com)), a provider of Microsoft Dynamics AX-based ERP solutions, says that while he believes only 10 to 25% of midmarket companies will begin broad deployment of Vista in 2007, those deployments could depend heavily on the current state of each enterprise's desktop OS.

"Companies not yet standard on Windows XP SP2 [Service Pack 2] should begin planning Vista deployments in 2007 or risk getting further behind the marketplace in business productivity tools," Carpizo says. "Companies on Windows XP SP2 should let



## A Vista Deployment Checklist

CA's David Luft ([www.ca.com](http://www.ca.com)) explains that there are a number of activities involved with any upgrade process involving Vista. Following are some of the items he recommends including in a deployment checklist.

- Educate and train IT staff.
- Generate a current, accurate, and complete desktop hardware and software inventory.
- Verify that all desktop application vendors support Vista.
- Compare current desktops to Vista requirements to determine what upgrades are needed where.
- Select tools to use for automating and managing the upgrade and installation of hardware and software.
- Plan the hardware upgrade/installation process.
- Plan desktop applications and Vista OS upgrade/installation process.
- Understand how upgraded Vista machines will co-exist with PCs that have not yet been upgraded.
- Construct a test environment.
- Thoroughly test the hardware and software upgrade/installation process across a sampling of typical desktop PCs.
- Plan training for employees.
- Perform upgrades to small batches of PCs to gauge success and adjust the plan.
- Initiate stated rollout across the enterprise.

their needs for lower operating cost, increased security, and improved productivity drive their decision to migrate to Vista."

Many enterprises that took an early plunge with Windows XP learned that it's best to look before leaping—or at least wait for the first major round of updates to emerge before subjecting systems and data to code that might be unstable or insecure. David Luft, senior vice president of product development for CA ([www.ca.com](http://www.ca.com)), says that while many companies have become

ing steps now to ensure a totally glitch-free migration down the road," Luft says.

### Testing, Testing . . . 1, 2

Testing will play an integral role in the Vista preparation process, and Paul Hernacki, CTO of Definition 6 ([www.definition6.com](http://www.definition6.com)), an IT and e-business consultancy, suggests that businesses conduct readiness assessments to determine how much of their hardware can already support Vista, how

*Go to Page 10*

**"Any company that plans to delay adoption because of perceived risk is the exact kind of company that should start taking steps now to ensure a totally glitch-free migration down the road,"**

*-CA's David Luft*

## Storage

[www.Processor.com/Enhance4](http://www.Processor.com/Enhance4)

DECEMBER 15, 2006



### 1U 4-Bay Multi I/O RAID/JBOD Storage

EnhanceRAID™ R4 RAID embedded or HBA dependant storage system with 4+ hot swappable HDD drive trays

- |                           |                           |
|---------------------------|---------------------------|
| <b>RAID Configuration</b> | <b>JBOD Configuration</b> |
| • U320 SCSI               | • Multi-lane SATA/SAS     |
| • GbE iSCSI               | • Port Multiplier         |
| • Firewire/USB            | • eSATA                   |

**ENHANCE | TECHNOLOGY**  
INNOVATION IN HYBRID STORAGE TECHNOLOGIES

12221 Florence Ave  
Phone: (562) 777-3488

Santa Fe Springs, CA 90670  
Fax: (562) 777-3499

## Storage

[www.Processor.com/PowerFile1](http://www.Processor.com/PowerFile1)

SEPTEMBER 15, 2006



### The new Active Archive Appliance (A3) features:

- A turnkey archiving appliance—set up in 30 minutes
- Start with 3.4TB, scale to 30TB per volume
- Work with existing ILM software tools
- Mount as standard network share
- Store on industry-standard media with 50+ years life
- Provides protection in an all-in-one archival system

**PowerFile®**  
ACTIVATE YOUR ARCHIVES

3350 Thomas Road  
Phone: (866) 838-3669

Santa Clara, CA 95054  
Email: sales@powerfile.com

## Storage

[www.Processor.com/Digilant](http://www.Processor.com/Digilant)

OCTOBER 20, 2006



### Digilant 3U Linux Based NAS Storage Device

- Data Capacity from 1.28TB to 12TB
- 10/100/1000 Ethernet Connectivity
- RAID 0 to 5 Supported
- Fast SATA Hard Drives with NCQ Supported
- Network Cards Teaming Supported
- Multi-Platform Support

**Digilant™**  
- NO EXCUSE. NO COMPROMISE -

2283 W. Grand River  
Okemos, MI 48864  
Phone: (800) 306-2199  
Fax: (517) 381-7777

# Data Center Fire Protection

*Continued from Page 1*

include proper alarms and detection, personnel fire extinguisher training, and the installation of a clean fire suppression system. Consideration must also be given to manual or automatic shutdown of the network system as well as the power and air-conditioning into the room. An exit plan to egress the room quickly should also be in place for personnel working in the area."

Admirand says, "All data centers should have an emergency power shutdown system for both power shutdown and air-conditioning shutdown. This is commonly called the EPO (emergency power off) system. This system will eliminate the source of energy (electricity) that typically starts

## Fire Protection Must-Haves

According to ANSUL ([ansul.com](http://ansul.com)), here are fire protection must-haves that every small to midsized enterprise should review on a regular basis.

- Employee extinguisher training
- Personnel exit plan
- Sensors/detectors
- CLEANGUARD fire extinguishers
- Clean agent fire suppression system
- Affiliated alarms and system shut-down capabilities

an electrical fire." In addition, he says data centers should have a form of smoke detection for the overall space.

SMEs, Admirand says, should have addressable photovoltaic-type smoke detectors installed on the ceiling. "Typically," he says, "the quantity of detectors depends upon the frequency of air changes in the room. A useful rule of thumb is to space the detectors to cover 125 square feet each. If the data center has an access floor, smoke detectors should be installed below the floor per manufacturer's recommendations. The spacing typically matches the spacing on the ceiling."

If a sprinkler system is available in the building, Admirand says a dry-pipe sprinkler system should be provided. In addition, he says to minimize the fuel load in the data center. "Do not store anything in the room that is not necessary, and do not store flammable items in the data center if at all possible."

### Prevent The Heat

So what does the industry offer when it comes to fire detectors and extinguishing systems designed for the data center? According to Ziembra, there is a myriad of different smoke and heat detectors available, and some, he says, are so sophisticated that they can detect—and help extinguish—a fire even before it reaches the incipient, or flame, stage. He says, "Detectors that provide early warning capabilities are very effective in this

type of situation. Addressable control panels serve as the brains for the overall fire suppression system in that they receive the signals from the detectors, provide some type of warning to the occupants, and then discharge the system."

Admirand says smoke detection systems include nonaddressable smoke detectors (the least expensive), addressable smoke detectors (midrange cost systems, but easier to use when trying to identify the source of a smoke alarm), addressable smart smoke sensors (more costly, but self-monitoring and the most sensitive of the individual smoke sensing/detecting devices), and smoke sampling sensors such as a VESDA (Very Early Smoke Detection Apparatus) system.

As for EPO systems, Admirand says the components are actuation switches with protective covers to prevent accidental activation, industrial-grade contactors or heavy-duty commercial relays, hard-piped wiring, and in some cases, control panels. These devices, he notes, are all available from electrical component vendors such as General Electric ([www.ge.com](http://www.ge.com)), Square D ([www.squared.com](http://www.squared.com)), and Siemens ([www.siemens.com](http://www.siemens.com)).

According to Admirand, sprinkler systems are available in two flavors: wet- or dry-pipe systems. The wet-pipe systems use flooded piping and release water whenever a sprinkler head opens. He says, "This could be caused by the heat of a fire or the accidental breaking of a sprinkler head. The dry-pipe systems use pressurized air in the piping system, and the water is held back by a form of deluge valve."

Admirand says the two most popular types of deluge valves used in a preaction sprinkler system are single interlock and double interlock configurations. He notes that a single interlock valve will release its water if either the pressure in the sprinkler piping is lost or the preaction system control panel signals the valve to operate. On the other hand, a double interlock valve releases its water only after both the preaction control panel has signaled it to operate and the pressure in the sprinkler piping is lost.

Ziembra says ANSUL offers a full line of fire protection products designed specifically for data centers. The company's CLEANGUARD portable fire extinguisher is easy to use, nonmagnetic, and electrically nonconductive. Ziembra says the extinguisher will not affect sensitive electronic equipment such as computers. He says for an SME, the new SAPPHIRE clean agent systems and the INERGEN systems are becoming increasingly popular. Ziembra adds, "Both have advantages in pricing and installation, but most importantly, they will protect the room while also protecting the environment." □

### SPONSORED LINKS

#### ANSUL CLEANGUARD

ANSUL CLEANGUARD hand portable extinguishers contain DuPont FE-36, where the agent must be clean, electrically nonconductive, environmentally friendly, extremely low in toxicity, and exceptionally effective

[www.Processor.com/ANSUL6](http://www.Processor.com/ANSUL6)

## Planning & Preparing For Vista

*Continued from Page 9*

much of it can be upgraded easily, and how much of it would need to be replaced.

"[Businesses] should engage in lab exercises to test standard application loads on Vista and have select users pilot Vista for a period of time while the full rollout is planned," Hernacki says.

During testing, many enterprises will likely discover that their existing systems aren't quite up to snuff with Vista's hefty system requirements. (See the "Can Your PCs Handle Vista?" sidebar and "Vista's Hardware Demands" on page 11 for more information.) Whitehead says that while the hardware used by most enterprises is fine for XP, it will likely need upgrading for Vista—

they should plan for 2GB of RAM, fast hard drives, TPM (Trusted Platform Modules), Gigabit Ethernet, and "screaming-fast video" in their next round of hardware refreshes.

Says Luft: "When you're standardizing on a new OS across the enterprise, your chain is only as strong as your weakest link. That's why every company must pinpoint exactly where their PCs don't meet Microsoft's published guidelines. Even if those upgrades aren't significant, they still have to be performed for the upgrade to be accomplished successfully."

### Training Ahead

In addition to comprehensive audits of all systems, including servers, desktops, and lap-

tops, enterprises mulling the switch to Vista should also work to consolidate applications, which Whitehead says will subsequently deliver the chance to simplify and reduce the number of applications in use across the business. Also, it's crucial to test both security and management processes as part of an enterprise's overall Vista readiness assessment because once these areas are in check, the eventual deployment will run smoother.

Training across the enterprise is also a necessity—first for IT staff and then, eventually, for employees. However, before employees begin to use Vista, Luft recommends that enterprises construct a test environment and test both the hardware and software upgrade and installation processes across a sampling of typical desktop PCs, so no surprises occur when the actual deployment begins. Also, upgrades should happen first on small batches of PCs, so IT staff can gauge the effectiveness of the process and make adjustments as necessary.

"Each company will need to assess, plan, and budget for migration," Luft says. "Failure to engage in this level of planning could result in failed implementations." □

## Can Your PCs Handle Vista?

In a report released in December by Softchoice ([www.softchoice.com](http://www.softchoice.com)), a provider of IT products and services, statistics revealed that half of North American PCs currently in use do not meet the minimum requirements of Vista. Meanwhile, a whopping 94% of the computers won't support Vista in its premium configuration.

The data was collected between June 1 and Oct. 1 of last year from more than 112,000 desktops in 472 unique organizations representing industries such as manufacturing, healthcare, education, technology, and finance.

The report attributes the gap between current systems and what Vista requires to three factors, including the sharp increase in hardware requirements required to run Vista, longer hardware refresh cycles used by many organizations, and the lack of easy access to PC inventory information needed to implement an effective life cycle management process.

**In addition to comprehensive audits of all systems, including servers, desktops, and laptops, enterprises mulling the switch to Vista should also work to consolidate applications.**

### Storage

[www.Processor.com/ExcelMeridian14](http://www.Processor.com/ExcelMeridian14)

DECEMBER 8, 2006



**SecurStor IP SAN / iSCSI IP SAN / SATA-300**  
Get access to storage from anywhere on the network—distance is not a factor. Using iSCSI technology to form a SAN over Ethernet creates a low-cost alternative to Fibre Channel. Jumbo Frames, Mutual CHAP, and greater than 2TB LUNs supported. 2U 12-bay and 3U 16-bay models available.



3220 Commander Dr.  
Carrollton, TX 75006  
Phone: (972) 980-7098

### Storage

[www.Processor.com/Unity2](http://www.Processor.com/Unity2)

DATE, 2006



Maxtor Atlas 10K V Hard Drive (8D147J0)  
**\$117**



Maxtor Atlas 10K V 147GB  
Ultra320 SCSI 80-Pin  
Hard Drive

- 147GB Capacity
- Ultra320 SCSI Interface
- Up to 89MB/sec Sustained Throughput
- 4.2 ms Average Seek Time (Read)
- 8MB Cache
- 10,000 RPM
- 1-Year Warranty
- This product is brand new in OEM packaging

30083 Ahern Ave.  
Union City, CA 94587  
Phone: (510) 475-0400  
Fax: (510) 475-0500

### Workstation

[www.Processor.com/Arbor2](http://www.Processor.com/Arbor2)

AUGUST 4, 2005

**SUPERMICRO®**



**The 1st SATA RAID 5 Hot-swap Midtower Chassis in the World!**

- Dual Intel Xeon processors up to 3.06GHz
- Super X5DAL-TG2 server board/533FSB
- Up to 8GB ECC Reg. DDR 266 SDRAM
- 1 8 x AGP Pro 1.5V slot
- 2 64-bit PCI/X 66/133, 2 32-bit PCI
- Dual Gigabit LAN Ports
- 12" x 9.8" ATX form factor

**ARBOR®**

Embedded and Network Computing

San Jose, CA 95131  
Fax: (408) 452-8909

# Vista's Hardware Demands

## How Much Is Enough?

by David Garrett

**FEW THINGS DEMAND** as much work as rolling out a new version of Windows. Whether you've got 100 machines or 100,000, an upgrade takes months of planning, testing, training, and deployment. If nothing else, it's a test of your data center's endurance.

Vista is Microsoft's ([www.microsoft.com](http://www.microsoft.com)) first OS in five years and boasts five years of improvements, including a jazzy new interface called Aero. In late November of last year, Microsoft's CEO, Steve Ballmer, released Vista's business editions at a Nasdaq event in New York. Forrester analysts Simon Yates and Benjamin Gray called it "the culmination of work that began in earnest in August 2004, when the first beta kicked off, followed by 27 months of stress testing, more betas, two RCs, and more than 2.25 million downloads of the beta software."

Whether the business world will buy it—or buy it as quickly as Redmond hopes—remains to be seen. Unlike prior versions of Windows, Vista can strain a PC's hardware; features such as Aero's eye candy need high-end processors, RAM, and GPUs that most corporate endpoints simply don't have.

## A Common Mistake

If you're planning a Vista deployment—or merely toying with the notion in your head—start by avoiding the most common mistake. According to Larry LeSueur of Avanade ([www.avanade.com](http://www.avanade.com)), it's a lack of planning. "Before you even first do your deployment, do you know what applications are in your environment?" he asks. "Have you done at least some level of discovery?" All too often, data centers and IT departments learn that a new OS conflicts with a key business app only after it's been deployed. And that's too late.



### How Much Hardware?

To run Vista without Aero, a PC needs a 32- or 64-bit processor that clocks in at 800MHz, with 512MB of RAM, and a GPU that supports SVGA at 800 x 600 pixels. You'll also need a hard drive that's at least 20GB in size, 15 of which are free. And, of course, you'll need a CD-ROM drive, too.

If you've got that, you've got enough to run the basics in each of Vista's business versions, which include Windows Vista Enterprise (for enterprise-class firms that plan to license it under a Microsoft Enterprise Agreement), Windows Vista Business (for companies of any size), and Windows Vista Ultimate (for consumers and small companies alike).

But if you want Aero, you'll need more than just the bare bones, including a

whopping 1GB of RAM at the minimum. For complete specs, see the "How Much Hardware Is Enough?" sidebar. Aero includes bells and whistles such as Glass (Microsoft's name for translucent windows), Windows Flip (an enhanced version of ALT+TAB that offers screenshots and not merely thumbnails), and Flip 3D (which offers larger screenshots in three dimensions), all of which need hefty amounts of horsepower.

### Hardware Roadblocks

Yates and Gray believe that 34% of enterprise-class firms plan to start their Vista deployments by November of this year but note that no one knows just how broad those deployments will be and whether the bulk of firms will upgrade to Vista, Vista with Aero, or some blend thereof. Among the key questions, of course, is how an upgrade dovetails with existing

plans to refresh end users' machines and whether the two can be combined.

"Enterprises should start to introduce the OS on new hardware, rather than upgrading existing XP systems with a large migration project," wrote Yates and Gray in a research note. "It's time to abandon OS migration projects and simply begin introducing new operating systems on new machines as they are acquired, following a comprehensive testing and evaluation period."

### It's Not All Hardware

Merging a Vista rollout with new desktops could be a popular—and convenient—choice for time-strapped companies. "It's easier to only touch that desktop once," says Larry LeSueur, vice president of infrastructure and security solutions at Avanade ([www.avanade.com](http://www.avanade.com)), a global consulting group and joint venture between Accenture and Microsoft.

LeSueur notes that companies with aggressive Windows strategies—those who run Windows XP SP2 now—may have the

## Vista: How Much Hardware Is Enough?

If your end users run Windows XP SP2 now, there's a good chance they have the basic hardware to run Vista ([www.microsoft.com](http://www.microsoft.com))—without its bells and whistles, of course, and with a potential reduction in speed.

Microsoft's official hardware guidance for Vista deployments splits Vista machines into two types. The first, a Windows Vista Capable PC, supports only Vista's basic interface. It includes:

- An 800MHz processor
- 512MB of RAM
- A GPU with DirectX 9 that can support SVGA at 800 x 600 pixels
- A 20GB hard drive with 15GB of free space
- A CD-ROM drive

If you plan to give your end users more than just the basics, you'll need to give them Windows Vista Premium Ready PCs. At the very least these include:

- A 1GHz processor
- 1GB of RAM
- A GPU with 128MB of graphics memory that supports DirectX 9, a WDDM driver, Pixel Shader 2.0, and 32 bits per pixel
- A 40GB hard drive with 15GB of free space
- A DVD-ROM drive

A note on the GPU for Premium Ready PCs: Your GPU does not need 128MB of RAM unless its memory is dedicated. If the GPU relies on shared memory, the system memory (1GB at the minimum) is sufficient.

hardware to support Vista's basics already. "It's a little slow, and it may not support the Aero design and the cool features," he says, "but it does give me a good manageability and security story."

Indeed, the real problem is not hardware but software, according to LeSueur. Testing the huge array of enterprise software for Vista conflicts has proven to be the true time-drain in the roughly 30 rollouts that Avanade has begun. "Most companies are very surprised at the quantity of applications that do exist," says LeSueur, adding that departments or even end users themselves have installed software that may not function in Vista and must be tested first. "For some larger organizations, that may be an 18-month cycle," he notes.

The bottom line? For LeSueur, due diligence is the key to making Vista rollouts a success. "That planning exercise starts months ahead of even being able to think about your first desktop deployment," he says. "Customers can start on that today." □

## Network & Systems Mgmt.

[www.Processor.com/NWPSW](http://www.Processor.com/NWPSW)

DECEMBER 1, 2006



### NetScanTools Pro

- Network Information Gathering: Reconnaissance and Discovery
- Security Testing: Uses active and passive means to look for networked devices, exposed open ports, and network activity
- Training: Assists students in understanding various network protocols, methods of remote information gathering, and how networked devices expose information

NorthWest  
Performance  
Software, Inc.

PO Box 1375  
Sequim, WA 98382-1375  
Phone: (866) 882-3389  
Fax: (360) 683-9871

## Security

[www.Processor.com/Marx2](http://www.Processor.com/Marx2)

NOVEMBER 10, 2006



**CRYPTO-BOX:** Protects software and online media distribution with the powerful AES / Rijndael encryption algorithm on board. Designed for Electronic Software Distribution (ESD), Pay-per-use license management, and online subscription services. Allows secure online activation, automated remote updates, and web access control.

[Learn more at www.Processor.com/Marx2](http://www.Processor.com/Marx2)

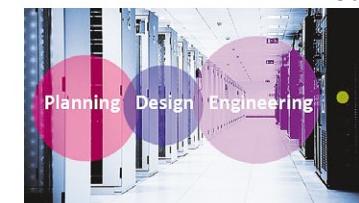
**MARX**  
SOFTWARE SECURITY

2900 Chamblee Tucker Rd., Bldg. 9  
Atlanta, GA 30341  
Phone: (800) 627-9468  
Fax: (770) 986-8891

## Data Center Services

[www.Processor.com/RelRes](http://www.Processor.com/RelRes)

OCTOBER 20, 2006



We offer **planning, design, engineering, construction management and commissioning** for data center facilities & IT infrastructure. We can help you gain a complete picture of how the capabilities of your facilities and network architecture may impact business goals. Visit [Relres.com](http://www.Relres.com) for a complete list of our services, past projects, as well as information on planning & budgeting data center projects.

**reliable resources**

6121 Baker Rd. STE 109  
Phone: (612) 279-0411

Minnetonka, MN 55345  
Fax: (612) 279-0410

## Built For Performance

© 2006 iStor Networks, Inc. iStor Networks, Inc. is a registered trademark, and the iStor Networks logo and GigaStorATX are trademarks of iStor Networks, Inc. Photo courtesy of Outerlimits Offshore Powerboats. All rights reserved worldwide.

Disappointed with a lack of performance in your current iSCSI or Fibre Channel-based storage? iStor Networks, Inc. is in a class of its own, providing the System 2 Solution high-performance iSCSI IP Storage.



GigaStorATX™



iS326

### iStor Delivers iSCSI

iStor found inspiration when it created the highest performance, up to 1160 MB/s, and most robust iSCSI products. The resulting solutions provide companies with the ability to overcome technology and total cost of ownership limitations in DAS, SAN, and NAS environments.

### The System

Fully-integrated GigaStorATX 1GbE and 10GbE controllers conform to the ATX form factor specifications, providing a cost-effective performance-based iSCSI Storage System.

### The Solution

For VAR's and System Integrators that require a vendor-provided enclosure, iStor offers the iS326 Solution. The iS326 includes the GigaStorATX System supporting eight ports of GbE or a single 10GbE for iSCSI connection, with capacity for up to 15 customer-supplied high-capacity SATA drives.

When it comes to high-performance, feature-rich, and cost-effective iSCSI RAID storage, iStor Networks solutions should be on your evaluation short list. iStor offers you the balance of price and performance that makes iSCSI IP Storage an obvious "YES" decision for organizations of all sizes or sophistication.

The iStor Networks web seminar "IP SAN's in the SMB" featuring Brian Garrett of ESG can be viewed at [www.infostor.com/webcast](http://www.infostor.com/webcast).



[www.iStor.com](http://www.iStor.com)

# We've Changed Have You Noticed?

If you're in the market for data center equipment, you need to make Processor.com your first stop.

The New All-In-One search at Processor.com makes it easy to:

- Find product information
- Research and compare related products in a category
- Read editorial reviews and articles related to a topic
- Enter keywords to search for product information
- Send an email to a product manufacturer, link to the manufacturer's Web site for additional product information, or find a phone number to call

All with JUST ONE CLICK!

Go Online To: [www.Processor.com](http://www.Processor.com) today!

# PROCESSOR.COM®

The Processor.com website features a prominent search bar at the top with the text "All-in-One Search! NEW! Find ALL New Product Information With ONE CLICK!". Below the search bar, there are several navigation categories: Physical Infrastructure, Communications, End Nodes, Software, Services, and Cover Articles. Each category lists various sub-topics such as Cabling, Application Networking, Data Collection, and Business Productivity. A sidebar on the left includes links for Log In / Forgot Your Password?, Sign up NOW for the Processor.com Weekly Update!, Post A Free..., My Personal Library, Dealer For-Sale Listings, Find Dealers, Industry Jobs, Subscription Headquarters, Advertising, About Us, and Extras. A "Processor SHOWCASE" section highlights new products and services. A banner at the bottom right says "Security Options Abound - Right For Your SME?".

# HERGO COMPUTER TECHNICAL FURNITURE

An original equipment manufacturer since its inception in 1992, Hergo remains a trusted source for technical furniture, computer enclosures/ cabinets, relay racks, LCD mounting solutions and command & control centers.

We are technology people who understand your computing workspace needs.

As part of our 100% customer satisfaction guarantee, Hergo offers free space design and consultation, including 3-D CAD drawings and simulated environment renderings to ensure maximized user space and productivity.

Hergo is an approved supplier to all branches of the U.S. Government.

**GSA Contract # GS-29F-0133G**



## 888.222.7270

## www.hergo.com

56-01 55th Avenue, Maspeth, NY 11378 | Tel: 888.222.7270 | Fax: 888.410.0671 Terms, specifications & appearance are subject to change without prior notice • © 2006 hergo®

### Repair

[www.Processor.com/Pegasus](http://www.Processor.com/Pegasus)

JANUARY 13, 2006

POS (Point-of-Sale)  
Barcoding / Scanners /  
Barcode Printers

#### Sales & Maintenance

- Quality Service
  - Experienced Technicians
  - Fast Return
  - Servicing Major Brands
- Symbol • Intermec • Zebra  
Metrologic • Cisco Access Pts.

Call Us Today!



4 Mustang Circle  
Forney, TX 75126  
Phone: (800) 856-2111  
Fax: (972) 564-5027

Pegasus Computer  
Marketing, Inc.

### Environmental Monitoring

[www.Processor.com/AVTECH15](http://www.Processor.com/AVTECH15)

NOVEMBER 10, 2006

Order Online  
For Just...

**\$245**



TemPageR provides real-time temperature monitoring, graphing and logging with alerts to individuals or groups. Web interface, supports 4 digital temperature sensors, connects via Ethernet, sends email, SMS & SNMP alerts, use w/o host PC, rack mount option. Free support and satisfaction guarantee. Resellers welcome.



221 Third Street  
Newport, RI 02840  
Phone: (401) 847-6700  
Fax: (401) 847-6701

### HVAC

[www.Processor.com/Atlas2](http://www.Processor.com/Atlas2)

NOVEMBER 17, 2006

#### Portable Air Conditioning

- Ideal For:
- Server Rooms
  - Electronic Equipment
  - Primary, Supplemental, or Emergency Cooling
- Featuring:
- Rentals and Sales
  - Installs in Minutes
  - Locations Nationwide



**Atlas Sales & Rentals, Inc.**  
THE PORTABLE COOLING & HEATING SPECIALISTS

PO Box 988  
Phone: (800) 972-6600

Newark, CA 94560  
Fax: (510) 713-3311

### HVAC

[www.Processor.com/Rackmount25](http://www.Processor.com/Rackmount25)

JULY 7, 2006

- Air Conditioned Cabinet
- From 1,800 to 10,000 BTU
  - Rackmount & Sidemount
  - Three sets of L-shaped universal vertical rails
  - Base, casters, and leveling feet standard
  - Removable side panels
  - Lexan front door (or solid steel) w/ lockable handle
  - Steel rear door with lockable swing door handle
  - Avail. in heights of 24u, 30u, 35u, 40u, 42u, 44u, 48u; depths of 24", 30", 36" and 42"; widths of 19", 23" & 24"



**RACKMOUNT SOLUTIONS, LTD**  
where customer service matters

915 S. Jupiter Road  
Garland, TX 75042  
Phone: (866) 207-6631  
Fax: (972) 276-6484

### Power Distribution

[www.Processor.com/CyberSwitching6](http://www.Processor.com/CyberSwitching6)

SEPTEMBER 22, 2006

#### Powering Up Your Network With the E Series



- 12A, 20A, or 30A rated
- True RMS current and voltage measurement
- 3 Digit Display Flashes when:
  - Current exceeds 80% of rating and/or
  - High or Low voltage condition exists
- Ethernet connection available
- Available in Zero RU vertical & 1RU horizontal models

**CYBER SWITCHING®**

1281 Wayne Ave  
Phone: (408) 436-9830

San Jose, CA 95131  
Fax: (408) 436-9828

### Power Management

[www.Processor.com/ServerTechnology10](http://www.Processor.com/ServerTechnology10)

NOVEMBER 10, 2006

#### Switched CW-24V2

Power cycle individual or groups of outlets to remotely reboot network devices.



- 208V to 240V Single or 3-Phase power at 20 or 30A
- Access and Security: Web interface, SSL, SSH, Telnet, SNMP, LDAP, TACACS+, and RS-232 access
- Environmental Monitoring
- Fuse Retractor
- High-Density 24 IEC C13

Server Technology, Inc.

1040 Sandhill Road  
Reno, NV 89521  
Phone: (800) 835-1515  
Fax: (775) 284 2065

## MICROLAND ELECTRONICS CORPORATION

is a leader in the distribution of a comprehensive range of high-end systems and storage products of various types, including storage subsystems, RAID, and tape backup products to resellers, VARs, and system integrators throughout the U.S.

1. TECHNOLOGY LEADERSHIP
2. PRODUCT RELIABILITY
3. AWARD-WINNING CHANNEL PROGRAM



Just some of the reasons why more systems builders choose Fujitsu.

	<b>Form Factor</b>	<b>Spindle Speed</b>	<b>Interface</b>
Server	2.5" / 3.5"	10K, 15K RPM	SCSI, SAS, FC
Mobile	2.5"	4200, 5400 RPM	ATA, SATA

Trust Fujitsu hard disk drives for your custom system solutions.



Call Microland Sales Rep at 1-800-632-1688!!!



CALIFORNIA HQ   TEXAS Office  
1883 RINGWOOD AVE. 3724 ARAPAHO RD.  
SAN JOSE, CA 95131 ADDISON, TX 75001  
TEL. (408)441-1688 TEL. (972)484-7515  
FAX. (408)441-1767 FAX. (972)484-7516  
[WWW.MICROLANDUSA.COM](http://WWW.MICROLANDUSA.COM)

## Power Management

[www.Processor.com/ServerTechnology11](http://www.Processor.com/ServerTechnology11)

NOVEMBER 10, 2006

- Switched CW-16V2**  
Power cycle individual or groups of outlets to remotely reboot network devices
- 120V to 240V power at 20 or 30A
  - Access and Security: Web interface, SSL, SSH, Telnet, SNMP, LDAP, TACACS+, and RS-232 access
  - Environmental Monitoring
  - Fuse Retractor
  - Mid-Density 16 IEC C13



Server Technology, Inc.

1040 Sandhill Road  
Reno, NV 89521  
Phone: (800) 835-1515  
Fax: (775) 284-2065

## Power Management

[www.Processor.com/ServerTechnology9](http://www.Processor.com/ServerTechnology9)

SEPTEMBER 1, 2006



### Enterprise View

- Remote management of STI Sentry PDUs over IP
- View your entire system from Global View down to the rack level
- Centralized event logging with extensive logs and reports
- Thermographic mapping shows a visual depiction of hot spots in your data center



Server Technology, Inc.

1040 Sandhill Rd  
Reno, NV 89521  
Phone: (800) 835-1515  
Fax: (775) 284-2065

## Power Management

[www.Processor.com/Baytech3](http://www.Processor.com/Baytech3)

FEBRUARY 3, 2006



### 24 Receptacle Remote Power Monitoring & Distribution

- Current, Voltage, Power, and Temp Monitoring
- LCD Screen Display
- RS232 Interface 120/208VAC 10,20,30A Models
- Power Distribution and Monitoring In One Unit



5239 Avenue A  
Long Beach, MS 39560  
Phone: (800) 523-2702  
Fax: (228) 563-7335

## Power Management

[www.Processor.com/Baytech](http://www.Processor.com/Baytech)

FEBRUARY 3, 2006



### 8 Receptacle Power Control and Monitoring

- Current, Voltage, Power, and Temp Monitoring
- LCD Screen Displays Power Monitoring Information
- RS232 interface, 120/208VAC 10,20,30A Models
- Turn On, Off, or Reboot any or All Receptacles



5239 Avenue A  
Long Beach, MS 39560  
Phone: (800) 523-2702  
Fax: (228) 563-7335

## Power Protection

[www.Processor.com/Baytech2](http://www.Processor.com/Baytech2)

FEBRUARY 3, 2006



### 8 Receptacle Power Control / Monitoring w/Trans Switch

- Current, Voltage, Power, and Temp Monitoring
- Automatic Transfer Switch
- RS232 or Network Interface 120/208VAC 10, 20, 30A Models
- Turn On, Off, or Reboot any or All Receptacles



5239 Avenue A  
Long Beach, MS 39560  
Phone: (800) 523-2702  
Fax: (228) 563-7335

## Power Protection

[www.Processor.com/ServerTechnology6](http://www.Processor.com/ServerTechnology6)

SEPTEMBER 1, 2006



Sentry 30-A Fail-Safe Transfer Switch provides fail-safe redundant power to single-power corded equipment.

- Fast Transfer Rate - Power interruption will not affect equipment uptime or performance
- Patented arc-suppression and power in-feed sharing technology extend product life and performance
- High Density - 100 to 240V and 16/32A



1040 Sandhill Rd  
Reno, NV 89521  
Phone: (800) 835-1515  
Fax: (775) 284-2065

## Product Releases

### PHYSICAL

#### Environmental Monitoring

■ **AVTECH** released the newest member of its Room Alert hardware line, the Room Alert 26W, to securely monitor environmental conditionals with wireless sensors. Room 26W hardware can monitor threshold parameters for temperature, humidity, power, flood, smoke, and more. A private, ZigBee-compatible protocol allows users to securely monitor large quantities of wireless sensors. Temperatures can be monitored in real-time from -67 to 257 degrees Fahrenheit or -55 to 125 degrees Celsius, with an accuracy of ± 0.5 degrees Celsius. A built-in UPS can send out alerts in the case of a catastrophic power failure.

### COMMUNICATIONS

#### Network & Systems Management

■ **DCB** released the Encrypted EtherPoll EEP-2, a SCADA (Supervisory Control and Data Acquisition) communications serial server, which lets multidrop devices operate over an Ethernet LAN. The unit supports 128-bit AES encryption and asyn-

chronous polling protocols, such as Poll Select, Modbus, DNP3, and more. The EEP-2 has a 10/100Base-T RJ-45 port and dual serial ports capable of up to 230Kbps of throughput. The Encrypted EtherPoll EEP-2 is available for \$789.

#### Security

■ **nCipher** has introduced the miniHSM embedded security module. The miniHSM offers encryption, digital signing, and authentication. The miniHSM is very small and provides protection with a prevalidated FIPS 140-2 level 3 security rating. The miniHSM supports 3DES, AES, RSA, DH, ECC, and other encryption algorithms. It also has a true random number generator and a built-in real-time clock. The product is compatible with nCipher's other developer products, such as CodeSafe.

#### Switch

■ **Alcatel-Lucent** announced its OmniSwitch 6850L and OmniSwitch 6850-U24X stackable switches that are software-upgradeable for Gigabit Ethernet desktop connections. The OmniSwitch 6850L is available in 24- or 48-port stackable layer 2/layer 3 and can be upgraded to a full-featured 10/100/1000 switch. The Alcatel-Lucent OmniSwitch 6850-U24X is an

all-fiber switch with 24 small form factor pluggable ports for optical transceivers. The 6850-U24X model includes two 10/100/1000 combo ports, two built-in XFP ports for 10Gb Ethernet links, and two 10Gb stacking ports.

.....

■ **MOXA Networking** announced the EDS-516A, an industrial Ethernet switch designed for high-density applications. The unit has 16 fast Ethernet ports with two copper or fiber ports, as well as QoS and support for GMRP and IGMP snooping. The EDS-516A also supports MOXA's ABC-01 (Automatic Backup Configurator), which lets network administrators save and load switch configurations and IP addresses, and MOXA's Turbo Ring redundancy scheme.

### END NODES

#### Storage

■ **Iomega** announced a new version of its Iomega UltraMax Desktop Hard Drive and a new small form factor Iomega Black Portable Hard Drive. Iomega's UltraMax Desktop Hard Drive has expanded capacity to 1TB. It supports RAID 1 and has built-in FireWire and a USB 2.0 hub. In addition to the default mode of RAID 0, other drive

settings include RAID 1, spanned, and simple configurations. The new Iomega UltraMax Desktop Hard Drive has a manual RAID switch, allowing the user to turn off the RAID configuration and use the drive configured as JBOD. The Iomega UltraMax Hard Drive is preformatted with Apple's HFS+ file system for Mac OS X users. The Iomega Black Portable Hard Drive is thin and lightweight, measuring 0.5 inches and weighing 5.8 ounces. This 120GB drive has USB 2.0 and FireWire connectivity and comes with host-powered operation and Drop Shock technology. Iomega includes EMC Retrospect Express software with both new drives.

### SOFTWARE

#### Application & Web Development

■ **Seagull Software** has introduced LegaSuite IMS Gateway, a distributed product for converting IMS transactions into SOA data. The software now includes tools for XML, Web services, WSDL, Java Command Beans, and .NET assemblies. XML parsing and SOAP handling occur outside of the mainframe. LegaSuite IMG Gateway supports Unix, Linux on Intel, Linux on z/Series, Intel, and Windows.

# Monitoring Data Center Environments

## Latest Addition To AVTECH Lineup Offers Wireless Connectivity

by Joseph Pasquini

STABLE AND APPROPRIATELY maintained environmental conditions are critical to the proper functioning of your computer room or data center. To help infrastructure managers mitigate potential environmental concerns, AVTECH Software has introduced its Room Alert 26W wireless monitoring solution.

As the newest addition to the Room Alert product family, AVTECH's Room Alert 26W uses 16-channel wireless connectivity rather than traditional cabling methods to remotely communicate with its associated sensors. "Room Alert 26W monitors unlimited sensors via wireless to speed installation, reduce costs, and save time by eliminating the need to run cables," says Michael

Sigourney, senior product specialist at AVTECH.

Based on a 1U rackmount configuration, the 26W offers multiple built-in sensor capabilities including Digital Temperature, Digital Humidity, Main Power, and Flood (requires cable for detection). External sensor capabilities include another iteration of Digital Temperature, as well as Room Entry. Additional sensors include those needed for monitoring smoke/fire, cameras, sound, and light. Cabled sensor connections can connect to the 26W through its six RJ-11 Digital Sensor ports; wireless sensor capacity is unlimited. Additional sensors are available. An Ethernet connection, offering plug-and-play setup, is used to connect the 26W to the data center or



#### SNAPSHOT

##### AVTECH Room Alert 26W

\$1,195

Data center monitoring appliance offers both wired and wireless sensor connections

[www.Processor.com/AVTECH16](http://www.Processor.com/AVTECH16)

corporate network. An RJ-45 expansion port lets administrators add additional Room Alerts to their monitoring configuration.

For advanced real-time monitoring functionality and reporting, as well as corrective actions such as automatic server shutdowns, users of the Room Alert can make use of either its onboard Web server for hostless usage or the supplied PageR Enterprise software when attaching the device to a PC. Logging and data export are supported, and 20 PageR client licenses come bundled.

In addition to GUI-based alerts, AVTECH's solution also offers alerts via email and email-to-SMS, SNMP traps and queries, Web page updates, and console updates. An included RoHS-compliant 5V, 110/240V power adapter supplies power. A built-in UPS serves as an emergency power source.

Competition in the monitoring spectrum includes Sensatronics' EM1 Environmental Monitor ([www.sensatronics.com](http://www.sensatronics.com)) and Sensaphone's IMS-4000 System ([www.sensaphone.com](http://www.sensaphone.com)). While all three are somewhat similar in scope, only the lower-priced AVTECH 26W augments its wired monitoring capabilities with built-in wireless technology.

The 26W includes 12 months of free maintenance support and updates; these services can be optionally extended on an annual basis. □

### Racks & Furniture

[www.Processor.com/Hergo2](http://www.Processor.com/Hergo2)

JULY 28, 2006

- 42 U x 36" Deep
- 4 Mounting Rails
- Front and Rear Lockable Doors, choice of Solid, Tempered Glass or Perforated
- 2 Removable and Lockable Side Panels
- 4 Dual Wheels

On Sale and ready to go!



### Racks & Furniture

[www.Processor.com/Hergo3](http://www.Processor.com/Hergo3)

DECEMBER 8, 2006

#### Hergo iRack Relay Rack 4 Post 19" Relay Rack

- Vertical Mounting Space: 12U, 26U, 42U
- Offered in 3 Depths: 24", 30", 36" Deep
- 4 Heavy-Duty Steel Uprights
- 4 Gliders
- Ships Knock-Down
- Easy to Assemble



hergo® TECHNICAL WORKSPACE SOLUTIONS

56-01 55th Avenue  
Maspeth, NY 11378  
Phone: (888) 222-7270  
Fax: (888) 410-0671

### Racks & Furniture

[www.Processor.com/Rackmount24](http://www.Processor.com/Rackmount24)

JULY 7, 2006

#### NEBS Server Cabinet Certified to Seismic Zone 4

Based on the standard, patented frame design of our RS, RSP and FRS server rack series, this NEBS-compliant configuration has been tested and certified to meet Telcordia (Bellcore) GR-63-CORE requirements for ZONE 4 seismic earthquake environments.

GSA #GS-35F-0208R

RACKMOUNT SOLUTIONS, LTD where customer service matters

915 S. Jupiter Road  
Garland, TX 75042  
Phone: (866) 207-6631  
Fax: (972) 276-6484

# Plugging The Data Holes

## Protect Against Information Leakage With The Reconnex iGuard 2600S

by Tony Bradley

ON AN ENTERPRISE LEVEL, many common threats have been reduced to mere annoyances or just another part of a daily process. Antivirus and antispyware are pretty much universal, and there is little real difference in the scope or effectiveness from one product to the next. Firewalls, for the most part, do what they are intended to do and keep unauthorized network traffic from penetrating to the internal network.

With that said, perhaps information security is all taken care of and you have nothing left to worry about. Of course, that's not true. There is always a new threat or a new attack to guard against. While much of security is designed to keep the bad guys

outside from getting into the corporate network, many attacks and many of the security issues enterprise networks face actually come from employees inside the network.

One of the threats that has been getting more attention lately is information leakage from employees transmitting sensitive or classified company information either intentionally or by accident.

Reconnex has created appliances specifically designed to monitor for and protect against data leakage. Jeff Brainard, director of marketing for Reconnex, says, "A small or medium-sized business (especially

banks, financial institutions, and healthcare organizations) will find that the iGuard 2600S helps them secure private customer



### SNAPSHOT

#### Reconnex iGuard 2600S

Starts at \$34,995

An entry-level appliance designed to help small to midsized enterprises protect sensitive company data

[www.Processor.com/iGuard2600S](http://www.Processor.com/iGuard2600S)

The 2600S also provides the ability to integrate with other security technologies such as Web proxies and network switches or email gateways. It uses complex info-biometrics, a sort of digital fingerprinting, to be able to detect not only the original or exact copies of data but also derivative works that contain data from the original. □

# Gain Tighter Control Of Spam

## Clearswift MIMEsweeper's Upgraded Email Appliance

by Cynthia Lazzaro

PREVENTING SPAM from reaching end users can take a major effort, and a number of products, both hardware- and software-based, help address this problem. However, many require a great deal of attention to administer. Clearswift has updated its email security appliance offerings to help businesses effectively protect and control their messaging services.

The MIMEsweeper Email Appliance family has three versions that are specifically designed for the small to midsized enterprise market: the CS250, CS500, and CS1000. The CS250 is designed specifically for an entry-level environment.

The CS250 will handle up to 250 mailboxes and comes with antivirus, antispam, antispyware, antiphishing, and content fil-



### SNAPSHOT

#### Clearswift MIMEsweeper Email Appliance

A secure, convenient messaging security appliance that provides full-service protection for your email system

[www.clearswift.com](http://www.clearswift.com)

The CS1000 runs on a system with a Dual-Core Xeon 5050 processor, 2GB RAM, and one embedded RAID controller connecting dual 80GB disks, which are configured as RAID 1. The CS1000 model also has twin hot-swappable power supplies and dual gigabit NICs, offering great performance for up to 1,000 mailbox users. For larger enterprises, Clearswift offers a choice of two higher-end models, the EN10 and EN20.

All models include SpamLogic antispam software, Kaspersky antivirus, as well as antiphishing and antispyware software, including Clearswift's MIMEsweeper content filtering, all running on a hardened

Linux OS appliance. The appliances come with Web-based management and reporting tools and include one year of support and maintenance, as well as one-year subscriptions to virus, malware, spam, and ThreatLab updates. In some locations, Clearswift even offers four-hour hardware support.

Most of the competition for the Clearswift MIMEsweeper Email Appliance is software-based; however, there are a few dedicated appliances that can offer some competition. For example, the PowerElf E-mail Server from Greencomputer ([www.greencomputer.com](http://www.greencomputer.com)) offers a robust server that is preconfigured to the company's PE2/OS proprietary software. The PowerElf E-mail Server also provides automatic software updates and integrated antispam and antivirus modules.

Another competitor is the Barracuda Spam Firewall from Barracuda Networks ([www.barracudanetworks.com](http://www.barracudanetworks.com)). The Barracuda Spam Firewall is an integrated hardware and software solution that also provides antivirus, antspoofing, antiphishing, antispyware, and even protection against Denial of Service attacks. □

**The CS250 will handle up to 250 mailboxes and comes with antivirus, antispam, antispyware, antiphishing, and content filtering.**

### Racks & Furniture

[www.Processor.com/Rackmount26](http://www.Processor.com/Rackmount26)

SEPTEMBER 1, 2006

#### Large Cable Bundle Network Rack

- Need a COMM rack with the rack rails moved to one side to accommodate large cable bundles?
- You have the option to slide your vertical rack rails horizontally as well as vertically. Set your rackmount width to 19 or 23 inches. Talk about versatility!
- Slide the rack rails to one side of the cabinet, allowing for additional 4 to 9 inches.



### Racks & Furniture

[www.Processor.com/ISC5](http://www.Processor.com/ISC5)

MARCH 10, 2006

#### Low Profile 19" Server Cabinet

- Available in variety of sizes: 6U, 9U, 12U, 15U, or 18U
- Cabinet depth choice of 32"D or 39"D
- Quick-release reversible hinged doors
- Universal rack rails fit all major brand servers
- Vented top and bottom panel with cable plate
- Leveling feet

**RACKMOUNT  
SOLUTIONS, LTD**  
where customer service matters

915 S. Jupiter Road  
Garland, TX 75042  
Phone: (866) 207-6631  
Fax: (972) 276-6484



**Information Support Concepts, INC**  
714 N. Watson Road, Suite 302  
Arlington, TX 76011  
Phone: (800) 458-6255

### Racks & Furniture

[www.Processor.com/Hergo4](http://www.Processor.com/Hergo4)

JULY 28, 2006

- Technical Workstations
- Pre-configured or Made to Order
- Heavy Duty Frames, Legs and Shelves
- Frame Sizes: 72" or 84"H, 24, 30 or 36"W
- High-Pressure Laminated Desktops
- Mount Shelves and Desktop at any height in 1" increments
- LCD Monitor Mounting Options
- Nationwide Delivery and Installation



**hergo** TECHNICAL WORKSPACE SOLUTIONS

56-01 55th Avenue  
Maspeth, NY 11378  
Phone: (888) 222-7270  
Fax: (888) 410-0671

# Intelligent KVM

## ATEN's New KVMoIP Switch Series Offers Advanced Functionality

by Sandra Kay Miller

**THERE IS NO DENYING** that KVM switches have come a long way since their inception. Keeping pace with the expanding data center as well as with technological advances, KVM equipment has matured to deliver digital access over IP networks, also known as KVMoIP; advanced security support for simultaneous multiple users; and remote and local control of an increasing number of servers.

**Offered in 8- and 16-port models, the KN2108 and 2116 provide secure control for up to 128 systems.**



ATEN's newest release, KN2108/2116 CAT5 KVM Over the NET, is the latest generation of KVM products to deliver this level of advanced functionality. Offered in 8- and 16-port models, the KN2108 and 2116 provide secure control for up to 128 systems.

Kevin Chen, president of ATEN International, describes the KN2108 and KN2116 KVM Over the NET as "efficient and affordable management solutions for companies with multiplatform server farms in need of state-of-the-art remote administration."

### SNAPSHOT

#### ATEN KN2108/2116 CAT5 KVM Over the NET

8-port: \$1,699.95; 16-port: \$2,995.95

An IP-based KVM providing secure access to eight or 16 servers per switch for multiple administrators and users

[www.Processor.com/ATEN3](http://www.Processor.com/ATEN3)

Unlike earlier KVMs that offer access to a single system and operator at a given time, ATEN increases manageability by allowing up to three administrators (one local and two over IP) simultaneous control over three separate systems attached to a single switch through tri-bus support. And IP capabilities provide remote access to up to 32 or 64 users through a Web-based interface, letting them securely operate eight or 16 devices.

Additionally, a panel array mode function permits multisession viewing of four, nine, or 16 on-screen window displays, letting administrators monitor and control as many as 16 servers at once.

Recognizing the increasingly heterogeneous environment in data centers, CAT5 KVM Over the NET's CPU model design supports all major server platforms, including Sun, PS/2, USB, and serial, with support for VT100 terminal emulation. Locally, analog access is also available.

With access through LAN, WAN, and the Internet, security becomes paramount with IP-based KVM switches. KN2108/2116 both supply advanced security features, including password protection and multiple encryption types (56-bit DES, 128-bit SSL, 256-bit AES, and 1,024-bit RSA) and support for HTTPS, along with three different access control levels (administrator, user, and viewer).

In addition to easy virtual access, ATEN simplifies physical control through a detachable front panel for rack mounting and streamlined rear ports for Cat 5 cables. Both models support 10/100Base-T.

Compared to similar solutions, including Avocent's DS1800 KVM Over IP ([www.avocent.com](http://www.avocent.com)), Raritan's IP Reach TR Series ([www.raritan.com](http://www.raritan.com)), and Belkin's Omniview Enterprise ([www.belkin.com](http://www.belkin.com)), Aten's CAT5 KVM Over the NET products are competitively priced so data centers can maximize their IT budget. □

from having to purchase third-party VMware ([www.vmware.com](http://www.vmware.com)).

"BladeSymphony with Virtage brings enterprise-class computing to a blade form factor for the first time. Its most important features include its flexible, scale-up/scale-out infrastructure, a unique backplane, and Virtage, an embedded virtualization feature. With Virtage, virtualization is baked right into the blade's firmware, which enables customers to avoid the costs and hassles associated with third-party virtualization software," says Steve Campbell, vice president of marketing for the Server Systems Group for Hitachi North

# Virtualization Built Into A Server's Hardware

## Hitachi BladeSymphony Server Offers Flexibility & Scalability

by Joe Lazzaro

**FIRST DEVELOPED AS** a way to pack more computing power in less space, blade servers allow IT staff to consolidate servers, shrinking cost of deployment and ownership by lowering complexity. Blade servers also enable IT managers to perform centralized management, increase reliability, and reduce cabling complexity.

According to Hitachi, it has rolled out the industry's first enterprise-class blade server, which the company claims can support mission-critical, enterprise-level computing needs. The server can also lower ownership costs for users by increasing scalability and flexibility. The server is part of Hitachi's BladeSymphony family and includes Virtage, an embedded virtualization feature

that builds virtualization directly into the server's hardware. This embedded virtualization software offers a different option than third-party virtual machine software.

BladeSymphony supports both Itanium and Xeon and can run either Microsoft Windows or Linux. The product also supports industry-standard PCI cards, allowing organizations to protect their investment in

existing technologies. The unit is expandable, including processor cores, I/O slots, memory, and other components. The server also includes SMP (symmetric multiprocessing) interconnect technology, which

### BladeSymphony supports both Itanium and Xeon and can run either Microsoft Windows or Linux.

lets customers configure multiple blades to work in concert as a single system.

While there are several companies that manufacture blade servers, including Sun Microsystems ([www.sun.com](http://www.sun.com)), Dell ([www.dell.com](http://www.dell.com)), HP ([www.hp.com](http://www.hp.com)), and IBM ([www.ibm.com](http://www.ibm.com)), the Hitachi BladeSymphony stands alone among the competition because the server features embedded virtualization software, freeing customers

America. "In short, BladeSymphony with Virtage combines the benefits of blade servers—small footprint and power and space efficiency—with mission-critical computing, high-performance computing, and the RAS features required to support mission-critical enterprise workloads in a single 10U product." The BladeSymphony product will ship in North America sometime this month. □

# We Know You're Busy



## That's Why We've Developed Articles That Won't Waste Your Time

Check Processor Each Week For The Information You Need To Know

- Product Releases & Overviews
- Market & Technology News
- Advice, Strategy & Tips From Experts

It's all available both  
in print and online at **Processor.com!**

Processor and Processor.com are available to anyone free of charge. Call (800) 819-9014 to subscribe to the weekly print Processor or go to [www.processor.com](http://www.processor.com) to read articles and view thousands of products online.



# ASA Computers

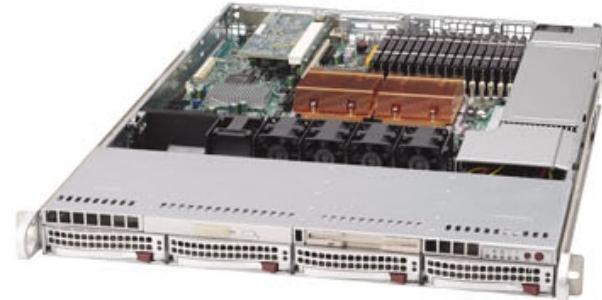
Want your business to be more productive?  
 The ASA Servers powered by the Dual Core Xeon™ processor provide the quality and dependability to keep up with your growing business.  
 Hardware systems For The Open source Community -since 1989  
 (Linux, FreeBSD, OpenBSD, Solaris, MS, etc.)

## Product Feature

- Rack solid Quality rackmount system with excellent cooling.
- Custom OS including Linux, Solaris \*BSD, MS Windows, Suse, Debian, etc.
- Hardware and software Raid storage.
- High density cluster nodes.
- SATA - SCSI - SAS - Fiber Raid.
- iSCSI and NAS storage appliances.
- Highend custom workstations.
- On-site warranty support for most of our products.

## Dempsey/Woodcrest Server Starts at

**\$2024**



- 1U Dual Core 5030 CPUs.
- 4GB FBDIMM Memory.
- Supports upto 64GB FBDIMM.
- 120 GB hotswap hard drive.
- 2xIntegrated Dual 10/1000 LAN.

## I Xeon Server Starts at

**\$4015**



- 5U Dual Xeon 2.8 Ghz 800 FSB.
- iSCSI or NAS Software options.
- 8x120 GB Sata Hard drives -Upto 18TB.
- 512 MB RAM
- Fail hard drive LED indicator.

## Your Custom Appliance Solution



Let us know your needs,  
we will get you a solution.

## Value Server V210 Starts at

**\$528**



- 1U 14" Deep 260W.
- Celeron 2.4 Ghz CPU.
- 512MB PC3200 DDR ECC Unbuffered.
- Support upto 2GB DDR RAM.
- 80GB Hard Disk.
- 2x 10/1000 Mbps LAN.

## Custom OEM Solution

- Custom chassis design as per your needs for your appliances.
- Custom logo printing.
- Facilitating in getting various certifications like FCC/UL/CE, etc.
- Custom install of your images.
- Drop ship on your behalf.

## Technical Expertise

We have a highly qualified technical and engineering team consisting of Redhat, BSD, MCSE, CCNA, and CNE certified engineers. They are dedicated to address any issue you may have with our hardware products. Our sales engineers are expert in providing you solution that suits your needs while keeping your budget low..

## Dual Xeon 800FSB Storage Starts at

**\$6644**



- 8U Dual Xeon 2.8 Ghz 800FSB CPUs.
- 2TB of storage (36TB max).
- 1GB RAM
- NAS or iSCSI software options
- 2 x 10/100/1000 Gigabit LAN.

## Why Do Business With ASA:

Since 1989, ASA has served customers like Cisco, Juniper, Caltech, Fermilab, and most Universities. We provide total custom solution with OS of your choice. Excellent pre-sales and post sales support. Reliable hardware at most competitive prices.

**We provide approved EVAL server for 10 days**

**Please call or contact us for your next hardware purchase.**

**1-800-REAL-PCS**



## OPINIONS

THE • LAST • BYTE

## 2006: A Year Of Celebration &amp; Loss

In this first month of 2007, I intended to write about the 50th anniversary of the hard drive and its implications for the future, when I received word of the death of a pioneer in the hard drive industry. In honor of the memory of Al Shugart (1930 to 2006), we will incorporate some memories of his contribution to the history of the hard drive in this piece.

## A Look Back

The IBM RAMAC first shipped in September 1956. The device stored 5 million 6-bit characters on 52-foot diameter disks. Alan Shugart started as a field engineer for this product and served on the design, manufacturing, and marketing management team

that developed the next few generations of IBM hard drives. In 1969 he left IBM with several colleagues to develop hard drives and other storage devices at Memorex. Later he left Memorex to found Shugart Associates and developed computer devices, including the first 5.25-inch floppy disk drive. He left Shugart Associates in 1974 and spent awhile living in Santa Cruz consulting, running a bar and a fishing boat. In 1979 Finis Conner visited him in Santa Cruz, and they started the company that became Seagate Technology.

Seagate Technology became the first company to ship 5.25-inch hard drives that enabled higher capacity mass storage for the then-new personal computers. Using hard

drives, personal computers could be used to create and store ever higher volumes of human content. Under Shugart's leadership, Seagate Technology became the dominate supplier of hard drives for desktop and

## TOM COUGHLIN

**AUTHOR** Tom Coughlin is the author of numerous authoritative reports on digital storage and its applications. He is also the founder and organizer of the annual Storage Visions Conference ([www.storagevisions.com](http://www.storagevisions.com)) and lead consultant for Coughlin Associates, which provides digital storage technical and market analysis and consulting services. Coughlin is a frequent writer and international speaker on digital storage and storage applications. You can find out more about him at [www.tomcoughlin.com](http://www.tomcoughlin.com).



enterprise applications, gobbling up competitors such as Imprimis and Conner Peripherals, and in the process invested in SanDisk, one of the originators of flash memory devices. Shugart left Seagate Technology in 1998 and started a venture capital fund. He died on Dec. 12, 2006.

## Storage Expansion &amp; New Possibilities

In the past 50 years, hard drives have helped create the mainframe computer industry and desktops and laptops. Today's hard drives are smaller, faster, and store vastly more than the RAMAC. They offer a value that has expanded their use in consumer products and traditional computers.

The increasing richness of human content has increased the appetite for digital storage. Hard drives have met this challenge by increasing areal density close to 100 million times since the introduction of the RAMAC.

As a result, this year there will be 3.5-inch hard drives with storage capacities that will exceed 1TB each and 1-inch disk drives with capacities that will exceed 20GB. Total shipments of hard drives should grow from 380 million units in 2005 to close to 800 million units in 2010.

Because hard drives store all of our important human records, security and preservation of data has become ever more important. Hard drives with built-in encryption are

starting to appear in the market, and storage networking and arrays are becoming common in even the smallest businesses. They are making their appearance in average homes, providing primary and backup storage both for personal content as well as for family sharing of commercial content.

Original first-copy personal and commercial storage in an average tech-savvy home could approach 4.5TB by 2010, and I expect personal content will greatly exceed commercial content by 2020, driving enormous growth in personal and home storage requirements. Larger storage networks are becoming more aware of their own content, and we will need content-aware storage systems

using intelligent content indexing and searching technology even in the home.

All these trends were enabled by an electromechanical device introduced by a group of engineers and visionaries at IBM in 1956. The hard drive enabled a growing market of applications and competing technologies such as flash memory. It is good sometimes to remember where these technologies came from and to remember those who made them possible, such as Al Shugart. It is to his memory that I dedicate this bit of verse:

"A Resurrection Of The New"  
Tom Coughlin, Dec. 15, 2006

Grouchy giant striding across history  
Visionary of the rotating disk  
Promethean bearer of storage to man  
Advisor and venturer  
Sharing his own way

No more captain your vessel  
Its various crew  
Catching new trends  
The bar is closed—Building 13 pauses  
What was new is now old

Technology consumes its history  
Time consumes those that make it  
But dreams survive  
Every time different  
Ours now, not his

Curious field engineer  
Iron manager  
Home to everything  
What parade do you lead now?  
All lives changed. . .

*Send your comments to  
[tom@processor.com](mailto:tom@processor.com)*

## NETWORK &amp; SYSTEMS MANAGEMENT

DECEMBER 22, 2006

## Move Toward IT Automation

## KACE KBOX Appliances Ease Systems Management &amp; Deployment

KACE KBOX APPLIANCES make IT automation accessible for companies of all sizes by breaking through the cost and complexity barriers of patch management,

**Easiest to use.** Simply put, KBOX appliances just work, and the KBOX JumpStart Program makes it easy to get trained and fully deployed within days.

**Comprehensive.** KBOX appliances preintegrate and deliver the functionality needed to solve IT automation challenges.

**Affordable.** KBOX appliances are priced with your network in mind. You'll find our pricing low relative to competitors, and there are no hidden costs.

## KBOX benefits:

- Provides real-time visibility and control of the nodes on your network
- Provides auditing, enforcement, and reporting for compliance
- Decreases user downtime
- Frees up IT staff time allowing staff to focus on strategic initiatives

## KACE KBOX 1000 &amp; 2000

Help businesses automate their IT management tasks, improve security, meet compliance requirements, and decrease user downtime

(888) 522-3638

[www.Processor.com/kace](http://www.Processor.com/kace)



## Digilant™

- NO EXCUSE · NO COMPROMISE -

Digilant's Network Attached Storage and iSCSI appliances provide your business a more efficient and economical way for data storage. Up to 30TB starting at \$895.



- Intel® Celeron™ 3.3GHz up to Pentium™ 3.8GHz
- 512MB DDR2 Memory up to 4GB
- 2x80GB (up to 4x750GB) SATA Hard Drives
- Intel Matrix RAID (embedded)
- Single Gigabit Network Card (embedded)
- 350W Power Supply
- CA's eTrust Antivirus 7.1
- Microsoft Storage Server 2003 R2

## E1000

## Starting at \$895



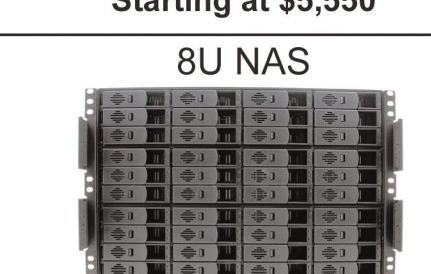
## Starting at \$2,150



## Starting at \$3,050



## Starting at \$5,550



- Data Capacity from 320GB to 3TB
- Intel® Celeron™ 3.3GHz up to Pentium™ 3.8GHz
- Hardware RAID Controller /w 256MB Cache
- RAID 0, 1, 10 and 5 Supported
- Dual Gigabit Network Card
- Windows Storage Server 2003 R2 Or SUSE Linux Enterprise Server 10
- Next Business Day On-Site Service

- Data Capacity from 640GB to 6TB
- Intel® Celeron™ 3.3GHz up to Pentium™ 3.8GHz
- Hardware RAID Controller /w 256MB Cache
- RAID 0, 1, 10 and 5 Supported
- Dual Gigabit Network Card
- Windows Storage Server 2003 R2 Or SUSE Linux Enterprise Server 10
- Next Business Day On-Site Service

- Data Capacity from 1.12TB to 10.5TB
- Intel® Dual Core Xeon™ 2.66GHz up to 3.6GHz
- Hardware RAID Controller /w 256MB Cache
- RAID 0, 1, 10, 5 and 6 Supported
- Dual Gigabit Network Card
- Windows Storage Server 2003 R2 Or SUSE Linux Enterprise Server 10
- Next Business Day On-Site Service

- Data Capacity from 3.2TB to 30TB
- 2 Intel® Dual Core Xeon™ 2.66GHz up to 3.6GHz
- Hardware RAID Controller /w 256MB Cache
- RAID 0, 1, 10, 5 and 6 Supported
- Dual Gigabit Network Card
- Windows Storage Server 2003 R2 Or SUSE Linux Enterprise Server 10
- Next Business Day On-Site Service

## Starting at \$13,995

For more information or to place an order please call us at 800-306-2199 or visit us on the web at [www.digilant.com](http://www.digilant.com)

## OPINIONS

DATA • DEVELOPMENTS

## How Not To Prepare For A Disaster

For those of you who missed the brief story on the national news Dec. 14, Western Washington and Oregon were hit with a series of storms that brought hurricane-force winds to the coast and far inland into the Seattle metroplex. While some compared it to the "Inauguration Day" storm of 1993, this storm was a lot more devastating. It brought winds clocked at nearly 70mph to Redmond and the surrounding communities—far higher than anyone had ever seen and only Al Gore had predicted.

For those who have visited here, you'll know that we are blessed and cursed with many tall trees which tend to topple over in a wind storm like so many 90-foot dominos. We only lost 15 to 20 trees in our neighborhood, but many nearby areas look like a tornado passed through. The result was a loss of the power grid that plunged us into darkness. After five long days of cold and dark, the power was finally restored to my home office, where I began to pick up the pieces.

### Implementing The Disaster Plan In The Dark

Like many other small businesses, I thought that I was prepared for loss of power. I have a generator and knew that "all" I needed to do was plug in the essential systems, and I would be back up in no

time. Ah, no. First, the generator needs gas. While I had five gallons on hand and full gas tanks in the cars, the gas was being used a lot faster than anticipated. I did not anticipate a five-day (or longer) power outage.

I also had to deal with electrical load. Of course, my wife's idea of what's important differs from mine, as she thought that we should be running the freezer, the refrigerator, and the stove's fan before I powered up a single server. That was not in the plan, but as you know, priorities have to change.

Once the house was stable, I tried to plug my uninterruptible power supplies into the generator. I guess I should have tried this when there was more light to find the instructions for the UPS. It seems the UPS does not like generator voltages of 135 to 138. I found that the only way to change this setting and make the UPS more tolerant of

"artificial" power was to use the UPS software that was installed on the dead systems.

Since I didn't have network connectivity, I would need to jerry-rig something that could connect the DSL line or figure out how to get a phone/modem connection to work. Thankfully, I stuck with the DSL approach as the browsing and giant downloads would have taken several days over a modem. Using my laptop, I got connected to the Internet and found the UPS software, changed the UPS settings, and also found out how to lower the voltage on the generator. Without access to the Web, I would have never been able to get these to work together.

### After The Dawn Comes The Chores

Another problem I had not anticipated is light—or lack thereof. At Redmond's latitude, it's totally dark at 16:30 and does not get light again until about 09:30. That gave me very little time to get wood chopped and gathered, the fires restarted, the generator serviced and gassed, and the other chores required to keep the house going and still have daylight to work on the systems. As a result, any work done in the computer room had to be done with candles, flashlights, batteries, and rechargers—all of which take time. Sure, I had emergency backup lighting, but it failed after the first day.

The cold was another factor I had not really considered. The systems I use generally don't like to run at temperatures approaching freezing. While I don't think I damaged them when they were finally restarted five days after shutdown, I think if they had gotten any colder, I would have had more problems than I did. Of course, if I had known how long the outage would be, I might have taken a different approach at keeping the house warm. The stove (fireplace insert) worked fine, but it required constant attention and an electric fan to circulate the warm air. I burned a lot of wood in five days—far more than anticipated.

### Learning From Experience

Fortunately, my mail server is programmed to route mail to my business partner's (Peter Blackburn) site in the UK. I've done the same for him when his site goes down. What didn't happen is that the Web sites hosted here were not replicated or rerouted automatically to a working server. This meant that my customers and readers did not have any way to register their books or pull down the latest addendum. Not good. Peter tells me that there are ways around this problem. We're going to have to investigate this further.

If I've learned anything from this adventure, it's that being prepared is not good enough if you don't actually test the recovery plan before the lights go out. Frankly, I expect we'll all have more storms and incidents in the future that will give us ample opportunity to leverage the lessons I've learned this last week.

*Send your comments to  
bill@processor.com*

**WILLIAM (BILL) VAUGHN**

**AUTHOR**  
*William (Bill) Vaughn is an industry-recognized author, mentor, and subject-matter expert with more than 30 years in the computing industry as a developer, manager, trainer, marketer, and writer. After 14 years at Microsoft, Vaughn stepped away to work on his new books, in addition to mentoring and leading training seminars. He's written six editions of the "Hitchhiker's Guide to Visual Basic and SQL Server" and two editions of "ADO.NET and ADO Examples and Best Practices for Visual Basic Programmers." He and Peter Blackburn just finished "Hitchhiker's Guide to SQL Server 2000 Reporting Services."*

# A WINNING COMBINATION

## How Do You Research & Make Your Buying Decision?

The proven track record of Processor's print issue and Web site offer an unbeatable combination!

When you're looking for product or buying information, turn to the print issue for a wide variety of current products from our list of hand-selected manufacturers and resellers.

Once you're ready to buy, turn to our Web site to connect with companies offering the products and services you need.

**FOR MORE INFORMATION CALL: (800) 247-4880  
INTERNATIONAL CALLS: (402) 479-2141**

# PROCESSOR

OR CONTACT US ON THE WEB:  
[www.processor.com](http://www.processor.com)

## BOOK REVIEW

# A Crash Course For Managers

## "IT Manager's Handbook" Helps You Adjust To Your New Role

by David Garrett

**IT'S A COMMON PROBLEM:** A good technician walks into work and learns he's no longer a network admin or software engineer, but a newly minted member of management.

Sickness, employee churn, office politics, or simply his stellar performance have left him with new duties that include finding and keeping a staff, running projects, writing budgets, or directing complex compliance initiatives.

But there's a catch. Many of his new duties look nothing like his old ones. He no

longer worries about the OSI model or *if* loops; now it's inter-team tiffs and the ROI of outsourcing, neither of which he's been trained for.

Enter Bill Holtsnider and Brian D. Jaffe, authors of "IT Manager's Handbook: Getting Your New Job Done (2nd edition)." Their book gives the new and often accidental IT manager a grounding in the skills he'll need to hold on to his job.

### Beyond 1s & 0s

In the first half of "IT Manager's Handbook," Holtsnider and Jaffe lead the new manager through a management boot camp that includes lessons on finding and keeping employees and then keeping them happy. They work through performance reviews, writing job descriptions, coping with recruiters, and choosing to outsource or offshore.

They include a good overview of project management that examines project scope and scope creep, kickoff meetings, Microsoft Project, Gantt and PERT charts, close-outs, war rooms, costing, chargebacks, and more.

The authors are thoughtful enough to include chapters on budgets, vendor management, and IT compliance. This last chapter is an especially useful introduction to a field that IT managers see as a head-

ache. The book's coverage of 12 laws is a nice touch, as is the brief intro to the alphabet soup of governance systems—COSO, COBIT, ITIL, and so on.

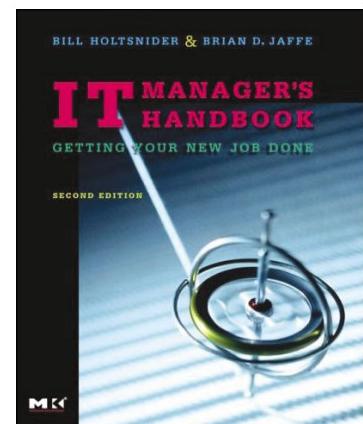
To cavil, one could suggest that more time be spent here; the COSO and COBIT sections are barely more than a page, and the chapter on compliance is just over half the length of the chapter on project management. But in fairness the book is a survey, not a treatise, and it's clear the authors sought a balance between breadth and depth in a field known for overwhelming information.

### Technology

With their work on management and its discontents done, the authors embark on a tour of today's business technology, touching on everything from WAN planning to HVAC to downtime estimates and questions such as copper or fiber.

They devote page space to nuts and bolts issues that, one presumes, even the greenest IT manager would know, such as a brief look at Windows vs. Macs vs. Unix side-by-side with more advanced topics such as Richard Stallman and the GNU (the dominant license in the open-source world).

The authors' willingness to review such IT rudiments brings up an intriguing question: Is this space that could be better spent on, say, an in-depth throwdown between Windows and Linux, or is it true that many new IT managers need a basic course in



"IT Manager's Handbook: Getting Your New Job Done (2nd edition)"

Authors: Bill Holtsnider, Brian D. Jaffe

Publisher: Morgan Kaufmann

Price: \$49.95

Format: Paperback, 632 pages

enterprise tech? Given that Holtsnider and Jaffe have used such care in choosing a wide range of topics, and given the book's careful and logical structure, one suspects the latter is true, if surprising.

Indeed, for the new IT manager, or for managers who find the scope of their duties daunting and want a quick way to patch knowledge holes, "IT Manager's Handbook" is an excellent addition to their bookshelves. Few authors have taken the time to help IT mavens move beyond the code or equipment of their craft and into its human and business spheres. But this book does, and does it admirably. □

## Key Concepts

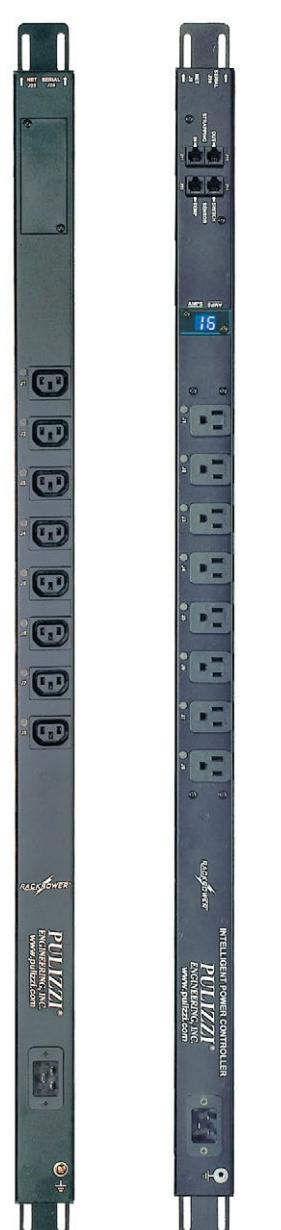
Many IT managers become managers by accident. They ascend to their positions when someone leaves, falls ill, or gets promoted; often, they're not ready for the added demands of management and need a crash course in the basics.

IT managers need a skill set that goes far beyond SANs, JavaScript, and CRM deployments. Managing people, projects, budgets, and teams is every bit as crucial to their job as knowing how to run a first-rate help desk or tweak the Windows Registry.

## Control Power Over Your Network

Same Day Shipping  
On In Stock Power Distribution Units  
(Orders placed by 12 PM Central)  
[www.pulizzi.com/stock](http://www.pulizzi.com/stock)

CURRENT METER



- IP addressable outlet control
- Web browser, telnet, SNMP, serial
- 120 or 208 volt configurations
- Turn power on/off to individual outlets
- Schedule automatic on/off events
- E-mail alert notification



**PULIZZI®**  
ENGINEERING, INC.  
[www.pulizzi.com](http://www.pulizzi.com)  
1-877-PULIZZI  
(785-4994)



Made In The  
U.S.A. For  
Worldwide Use

PRC1106

Order Online Today!

IPV42AB

[www.pulizzi.com/vpc](http://www.pulizzi.com/vpc)

IPV42A1

[www.pulizzi.com/vpc](http://www.pulizzi.com/vpc)

**360 Technologies HP Sales and Rentals**  
**Toll Free: 888-883-0360**

BUY • SELL • RENT • LEASE • REPAIR

• SPECIALS •

C6751A	OfficeJet K80XI .....	\$85	Q1273A	DesignJet 4000 42" .....	\$8,995
C8392A	7110XI AIO .....	\$145	C1316A	9100C Digital Sender.....	\$1,195
C9660A	LaserJet 4600.....	\$750	Q5916A	9200C Digital Sender.....	\$1,975
C6075B	DesignJet 1550CM+ 36" .....	\$6,995	C6074B	DesignJet 1050C+ 36" .....	\$5,495

Color LaserJets

C3985A	LaserJet 8500DN .....	\$1,895
C4089A	LaserJet 8000DN .....	\$495
C9661A	LaserJet 4600DN .....	\$750
C9795A	LaserJet 2500L .....	\$345
C7086A	LaserJet 4550N .....	\$545
C7087A	LaserJet 4550DN .....	\$650
C7098A	LaserJet 8550DN .....	\$1,495
C7131A	LaserJet 5500N .....	\$2,350
C8546A	LaserJet 9500N .....	\$4,750
C8547A	LaserJet 9500HDN .....	\$5,500
C9658A	LaserJet 5500DTN .....	\$2,495
C9659A	LaserJet 5500HDN .....	\$2,795
Q1320A	LaserJet 3500N .....	\$695
Q1323A	LaserJet 3700N .....	\$1,295
Q2488A	LaserJet 1500L .....	\$395
Q3670A	LaserJet 4650DN .....	\$2,095
Q3702A	LaserJet 2550L .....	\$275
Q3716A	LaserJet 5550DTN .....	\$3,375

LaserJets

C2001A	LaserJet4 .....	\$175
C2037A	LaserJet 4+ .....	\$195
C2039A	LaserJet 4M+ .....	\$325
C3166A	LaserJet 5SI .....	\$495
C3167A	LaserJet 5SI MX .....	\$495
C3916A	LaserJet 5 .....	\$250
C3917A	LaserJet 5M .....	\$295
C4110A	LaserJet 5000 .....	\$695
C4118A	LaserJet 4000 .....	\$295
C4120A	LaserJet 4000N .....	\$325
C4252A	LaserJet 4050T .....	\$395
C4254A	LaserJet 4050TN .....	\$445
C4265A	LaserJet 8150 .....	\$595
C4266A	LaserJet 8150N .....	\$595
C4267A	LaserJet 8150DN .....	\$795
C8049A	LaserJet 4100 .....	\$495
C8050A	LaserJet 4100N .....	\$595
C8051A	LaserJet 4100TN .....	\$695
C8052A	LaserJet 4100DTN .....	\$895
C8521A	LaserJet 9000DN .....	\$2,795
C8253A	LaserJet 9000MFP .....	\$4,795
C9124A	LaserJet 3300MFP .....	\$325
C9148A	LaserJet 4100MFP .....	\$1,295
Q1860A	LaserJet 5100 .....	\$895
Q1861A	LaserJet 5100TN .....	\$1,095
Q2425A	LaserJet 4200 .....	\$695
Q2426A	LaserJet 4200N .....	\$795
Q2428A	LaserJet 4200DTN .....	\$1,295
Q2432A	LaserJet 4300N .....	\$1,095
Q3723A	LaserJet 9050DN .....	\$2,995
Q3942A	LaserJet 4345MFP .....	\$2,250

Call for all New and Used  
HP Equipment!



- All above equipment is refurbished and carries a 90-day parts & labor warranty.
- Visa, MasterCard & American Express accepted.
- Many orders shipped the same day!

360 Technologies Inc.  
15401 Debra Drive Austin, TX 78734  
[www.360tech.com](http://www.360tech.com)  
[Info@360tech.com](mailto:Info@360tech.com)

Toll Free: 888-883-0360 Tel: 512-266-7360 Fax: 512-266-7366 IM: HPat360



888.644.7017

Home | My Account | Sign Out | View Cart

User: Guest | Items: 0, Total: \$0.00

[All Products](#) [Notebooks, PDAs](#) [Networking](#) [Printers](#) [Electronics](#) [Cameras](#) [Computers](#) [Software](#) [Weekly Specials](#) [Clearance](#) [Product Request](#) [Extended Warranty](#)
**With 10 Years of Experience in the E-Commerce Market, We Offer:**

- 50,000 unique products ready to ship today
- 120 unique categories of computer and consumer electronic products
- 97% "same day" order fulfillment rate
- Fast and reliable return and exchange process
- Same Day Processing time for Government and Educational Orders
- International Shipping
- Wholesale price discounts
- Largest selection of hard-to-find and obsolete products
- Telephone sales and tech support

**Corporate, Gov't & Educational PO's Welcomed.**  
**GSA Contract GS-35F-0097M**
**MONITORS / PROJECTORS**

15 / 17" Hitachi LCD Monitor Black	.....\$150 / 170
17" HP / Compaq 1740 LCD Monitor Black	.....\$195
17" Sharp LCD 1280x1024 0.26mm Black / White	.....\$161
3M Company LCD Projector 1200ANSI 5.5LB's	.....\$680
HP Digital Projector VP6121 DLP 1024x768 2000ANSI	.....\$665
HP Digital Projector xp8020 DLP 3100 ANSI Lum	.....\$1940
HP Home Cinema Digital Projector ep7110 DLP Projector L1688A	\$710

**NOTEBOOKS**

HP Pavilion dv1000 P-M	
2.0GHz 512mb 100gb DVDRW 14"	.....\$859
HP Pavilion zd7000	
P4 3.2GHz 512mb 100gb DVD+RW 17"	.....\$1,450
HPnc8200 PM	
1.7GHz 40gb 512mb DVD-CDRW WLAN 15.4WXGA XP	.....\$655
HPnc6000 P-M	
1.7GHz 60gb DVD+RW 14" XP	.....\$750
HP Presario V2405 Turion 1.8GHz 60gb DVD+RW 14"	.....\$655

**We Have a Large Selection of Notebooks  
Low Price Guaranteed!**
**SYSTEMS / SERVERS**

IBM eServer 326 8848 Rack Opteron	
2GHz 1GB SCSI Hot-Swap 1U	.....\$859
IBM xSeries 445	
RSAlI-EXA 8870 Rack Xeon 3GHz (2P) 2GB	.....\$6000
HP ProLiant ML350 G4	
Tower 1 x Xeon 3.4GHz RAM 1GB	.....\$980
HP WS xw4300	
3.2GHz 512MB 80GB DVDRW	.....\$1000

**DIGITAL CAMERAS**

HP PhotoSmart 735XI 3.0MP 3x optical	.....\$74
Sony Cyber-shot 5.1 MP 3x Optical DSC-W5	.....\$198
Vivitar Vivicam 10 / ViviCam 20 silver/blue/Red	.....\$10/11
Vivitar ViviCam 3915 Digital Camera 5.0MP x2	.....\$71
Samsung Digimax 4500 4.1MP 3x Optical	.....\$111
Vivitar ViviCam 3340 1.3MP/ViviCam 3695 2.0MP	.....\$16/25
Creative PC-Cam 900 2.1 MP Flash	.....\$35
Logitech QuickCam WebCam w/ Mic USB	.....\$17

**PDAs / PDA Accessories**

HP iPAQ H1945/HX2410 PDA USB	.....\$265/160
PALM Zire 31 PDA / P80708US	.....\$26
HP Mirco Keyboard / FA162A#AC3	.....\$16
TARGUS Universal Wi-Fi Keyboard	.....\$38

**We handle full line of new  
and refurbished CISCO  
networking equipment.**
**"Full project planning from start to finish"**

Premier Solutions Co. understands critical data operations and our 20 years of industry experience benefit our client base of over 30 data center buildouts and expansions.



**Our services include:**  
 • Server Management Solutions  
 • High-Density Server Solutions  
 • N+1 Power Solutions • Full Installation  
 • Thermal Management  
[www.Processor.com/PremierSolutions](http://www.Processor.com/PremierSolutions)



17150 Newhope St. Suite 206  
 Fountain Valley, CA 92708  
 Phone: (714) 557-5850  
 Fax: (714) 557-5855



Legendary Reliability®

**iStarUSA**

iStar, Good Start!

**W SERIES CABINET**

- Cabinet, Wallmount, Open-Frame Format
- Compatible to IBM, HP, and Standard Rackmount Chassis
- 6U, 9U, 15U, 22U, 36U, and 42U Size Available
- Perforated, Glass, and Solid Door Option
- Full line of Accessories for Cabling, Power Strip, Shelving, and Rails
- OEM/ODM with Full Customization Capability

Rackmount cabinets by iStarUSA provide cost-effective and customized solutions that enhance system performance and manageability.

CALL TODAY!  
 1.626.303.8885

Please refer to our website for a full product listing.

- ✓ **W Cabinet Series**
- ✓ **WM Wall Mount Series**
- ✓ **WO Open Rack Series**
- ✓ **WA Rack Accessories**

**Superior Appliance Solutions  
for OEMs and ISVs**

**www.pyramid-usa.com**

Pyramid Computer is a leading supplier of branded appliance solutions for OEMs and VARS. We offer a complete range of design, manufacturing and logistics services that allow you to effortlessly deliver a superior product to customers on a world wide basis, and focus your attention on core business activities.

- Quickly deploy an attractive high quality product with your own brand and image
- Minimize your efforts managing manufacturing, logistics and hardware support
- Reduce inventory costs, risks
- Demonstrable value even at low volumes

**pyramid**  
computer

Pyramid Computer USA  
 Phone: (866) 745-3553  
 Email: info@pyramid-usa.com

**888-644-7017**  
**Fax: 425-251-5000**

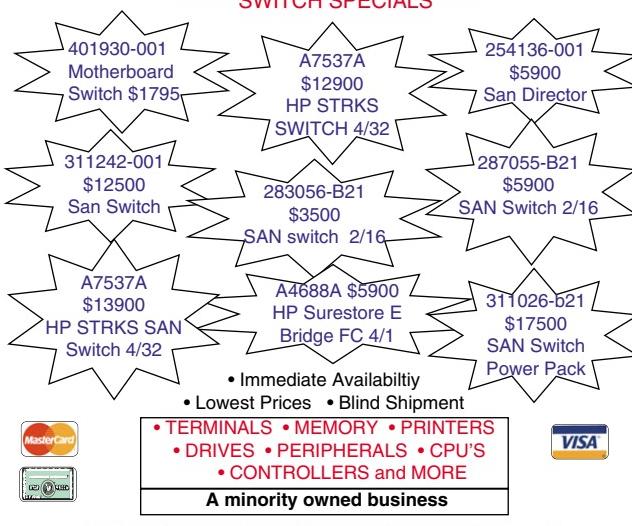
MSRP .....\$112,000

**CompuVest Price .. \$67,000**

**EQUIPMENT MANAGEMENT, INC**

Phone: (978) 534-2074  
 Fax: (978) 534-5574  
 Email: rob@emisolutions.com rico@emisolutions.com  
 WEB: www.emisolutions.com  
 42 Jungle Road, Leominster MA 01453

## \*\*\*\*\* SWITCH SPECIALS \*\*\*\*\*



BUY, SELL, TRADE ALL BRANDS.....!

## Processor.com


**HEWLETT PACKARD**  
 Global Printer Services

**GLOBAL PRINTER SERVICES**  
 INCORPORATED
[www.globalprinter.com](http://www.globalprinter.com)[www.HP4Sale.com](http://www.HP4Sale.com)

HP LJ 1100	\$159	HP LJ 4250N	\$815
HP LJ 1300	\$229	HP LJ 4500 series	\$1,050
HP LJ 2100	\$189	HP LJ 4550 series	\$949
HP LJ 2300	\$389	HP LJ 4600	\$799
HP LJ 2300D	\$429	HP LJ 5000	\$459
HP LJ 2300DN	\$529	HP LJ 5000N	\$699
HP LJ 4000	\$285	HP LJ 5SI	\$285
HP LJ 4000N	\$355	HP LJ 5SiMx	\$369
HP LJ 4000T	\$295	HP LJ 5SiNx	\$330
HP LJ 4000TN	\$365	HP LJ 8000	\$325
HP LJ 4050	\$315	HP LJ 8000N	\$425
HP LJ 4050N	\$405	HP LJ 8000DN	\$560
HP LJ 4050T	\$345	HP LJ 8100	\$499
HP LJ 4050TN	\$435	HP LJ 8100N	\$669
HP LJ 4100	\$359	HP LJ 8100DN	\$769
HP LJ 4100N	\$439	HP LJ 8150	\$549
HP LJ 4200	\$599	HP LJ 8150N	\$649
HP LJ 4250	\$699	HP LJ 8150DN	\$799

800 - 588 - 3554 or 608 - 268 - 4300

Fax: 608-268-4343 • E-mail: sales@globalprinter.com

**\$\$ CASH \$\$****\$\$ CASH \$\$****WANTED!**

Magnetic Tape Media:  
 9940 • 9840 • 3590 • LTO • SDLT

Please Contact  
 Al Bass  
 214-905-1882

abassignani@mediarecovery.com

Visit our new web site at: [www.mediarecovery.com](http://www.mediarecovery.com)**\$\$ CASH \$\$****\$\$ CASH \$\$**

**I T T** Information Technology Trading **Ph: (877) 715-3686**  
**Fx: (405) 715-3682**

[www.itechtrading.com](http://www.itechtrading.com)


We Also Buy  
All Other  
Brands of  
Computer  
Hardware!

- We Buy, Sell and Lease IBM
- AS/400 • RS/6000 • Servers
- System Upgrades
- Advanced 36 Systems
- Tape Subsystems
- Printers, Terminals, Modems
- 21 Years Experience

**Processor.com**

[www.ccny.com](http://www.ccny.com)  
**Computer Connection**  
 of Central New York, Inc.

For all your IT Network &amp; Security Needs

BUYS / SELLS / TRADE-IN / SERVICE / NEW / USED

**800-566-4786**

purchasing@ccny.com

sales@ccny.com

**K.D.S. INC.** **818-700-9510**  
*Kieu's Direct Source, Inc.*

Offering unbeatable solutions for:  
 IBM AS/400 (iSeries)  
 IBM RS/6000 (pSeries)  
 Sun Microsystems  
 HP9000  
 Cisco Systems

Buy, Sell, Lease &amp; Rent - New &amp; Used

**800-605-5446**

Ph: 770-738-1101 • Fax: 770-738-1110

[www.abacusslc.com](http://www.abacusslc.com) • [info@abacusslc.com](mailto:info@abacusslc.com)

**WE BUY EXCESS INVENTORY!!!**

**HARD DRIVES**  
**B U Y**  
 New/Used/Pulls \* All Interfaces  
 Notebook/Desktop/Servers \* Working & Non-Working  
 Laptop/Desktop/Server Systems \* Close-Outs  
 Peripherals \* ICs \* Memory \* Ink Toners \* Cell Phones  
**818.576.0016 Ph. 818.576.0081 Fax**  
 e-mail: [arccompo@yahoo.com](mailto:arccompo@yahoo.com)  
**SMS MEMORY**  
*We've Been In the Memory Business Since 1987*

**Memory For PC & MAC**  
**We Buy Memory**  
 Immediate Need For:  
 256 & 512 MEG DDR 2700 & 3200  
*Please Call (239) 596-2254*  
 FAX: (239) 596-2256  
 jeffsms@aol.com  
[www.smsassembly.com](http://www.smsassembly.com)

**IS M**  
 INTERNATIONAL SYSTEMS MANAGEMENT  
 INC

**800.421.6572**

Ph: 770.840.8994 • Fax 770.840.9228

[www.ismweb.com](http://www.ismweb.com) • [info@ismweb.com](mailto:info@ismweb.com)

IBM iSeries • IBM pSeries • Sun • HP9000 • Cisco  
 We Buy, Sell, Lease and Provide Short and Long Term Rentals  
 90 Day Warranty on All Refurbished Systems, Memory, Disk & Parts  
 Call Us To Save Up To 90% On Used Certified Equipment!

CALL ISM FOR ALL YOUR MIDRANGE COMPUTER NEEDS!

**Buy&SellCisco**  
 USED ROUTERS, SWITCHES, & NETWORK HARDWARE  
 Domestic Toll Free  
**1-888-443-3852**  
[www.dni-llc.com](http://www.dni-llc.com)  
 Tel. 1-973-486-0440 / Fax. 1-973-486-0445 / E-mail: [pr@dni-llc.com](mailto:pr@dni-llc.com)  
 90 -100 Route 206, #290 Stanhope, NJ 07874

**Same Great Information, New Look**  
 Our new, easier-to-read home page allows you  
 to quickly find the information you need.

**BUY & SELL HARD DRIVES**

FLOPPY DRIVES • CDROMS • CONTROLLER CARDS

New/Used/Pulls • Notebook/Desktop/Servers

All interfaces and capacities

[www.drivesolutions.com](http://www.drivesolutions.com)

FREE



**We Buy Used Cell Phones**  
 & pay up to **\$50** for each phone!

Some phones have no value. See current purchase price list for individual model prices at [www.pacebutler.com](http://www.pacebutler.com)[www.pacebutler.com](http://www.pacebutler.com)

1-800-248-5360 • (405) 755-3131

**COMPUREX SYSTEMS CORPORATION**  
 Your Leading Independent Reseller  
 Since 1987  
 IT Asset Disposition  
 Solutions Provider

**WANTED!**  
 • Compaq-DEC-HP  
 • ALPHASERVERS  
 DS, ES, GS Series

• 35 Eastman St. • S. Easton, MA 02375 • [www.compurex.com](http://www.compurex.com)  
 • (800)426-5499 • (508)230-3700 • Fax: (508)238-8250

**Regent Sales, Inc.**  
**800-657-9555**  
 Phone: (817) 249-9950  
 Fax: (817) 249-9069  
 Email: Sherisa@regentsales.com

**BULLSEYE!**  
 15K, 146GB HDD Pluggable 347708-B21 \$495.00  
 15K, 72GB HDD Pluggable 286778-B22 \$319.00  
 15K, 72GB HDD Pluggable 3R-A381-AA \$325.00  
 10K, 300GB Pluggable 350964-B22 \$575.00  
 10K, 300GB Pluggable 3R-A4952-AA \$595.00  
 10K, 146GB Pluggable 286716-B22 \$345.00  
 10K, 146GB Pluggable 3R-3841-AA \$345.00  
 HP MSL6000 ULTRIUM 460 DRIVE AD605A \$2,900.00  
 FCA2214 2GB 64BIT 133MHZ PCI-X 281541-B21 \$685.00  
 48 Port 10/100 Switch Enhanced OsWS-C2950G-48-EI \$2,345.00  
 24 Port 10/100 Switch Enhanced OsWS-C2950G-24-EI \$1,370.00  
 LTO3 Data Cartridges D2406-LTO3 \$71.85  
 SDLT Media Bar Code Reader SG-XBARCODES-L8 \$825.00

**Regent Sales, Inc., Your "On Target" Choice For New, Used & Refurb Equipment**

authorized reseller

**Quality • Integrity • Value**

# Understand Your Data Center's Physical Issues

## Be On The Lookout For Warning Signs

by Robyn Weisman

• • •

**BY ITS NATURE**, the Internet and all the things that have been built up around it, including networks that leverage the online world, seem infinite. Every year, companies amass data at such exponential rates that on first glance, servers with dual-core processors and ample storage space, along with storage systems that can access petabytes of information, are welcomed for their ability to keep up with this growth.

If physical real estate were as easy to procure as gigabytes, organizations would soon be blanketing our national parks with server parks (and at those prices, you could probably buy Chicago for the price of a few server clusters). Unfortunately, physical issues increasingly trip up company IT networks, leaving IT administrators grappling with power outages, overheated server rooms, and lack of physical space for networks to run efficiently and safely.

### Dangers Abound

Recently, Aperture Technologies ([www.aperture.com](http://www.aperture.com)) administered a survey comprising more than 100 companies across multiple verticals showing that 37% of

those polled ran out of power, cooling, or physical space without advance notice sometime over the last two years, while 58% acknowledged physical outages during the same time period.

"Really, the rubber is starting to meet the road. If you run out of cooling or power, it'll take anywhere from six to 24 months to fix or move. Managing the physical infrastructure is more of a challenge than other traditional aspects of the data center," says Steve Yellin, vice president of marketing at Aperture.

For her part, Lisa Raffin, vice president of professional services at VFA ([www.vfa.com](http://www.vfa.com)), which specializes in asset management and facilities capital planning, says that if businesses fail to properly plan their facilities needs for the future, they risk downtime and loss of data or processes. "The data center can represent risk in hundreds of thousands of dollars per second, so the sensitivity is quite extreme. In other words, time is money. Also, future growth can be impaired if not prepared for," Raffin says.

### The Four Horsemen Of The Data Center

Jake McClean, director of IT operations at EVault ([www.evault.com](http://www.evault.com)), which provides service-based data backup and recovery solutions, says that network administrators face four primary dangers

in their physical infrastructures: power; cooling; expansion capabilities; and physical, as opposed to network, security.

"A great deal of time is spent by network administrators on securing networks and servers. They do so with encryption, hardened access policies, and other security technologies—but a simple design flaw in the physical security of a data center can render many electronic safeguards useless," McClean says. "Additionally, a secure and efficient offsite data backup system and a well-tested business continuity plan should be implemented to ensure that data can be retrieved and rebuilt in a timely fashion, no matter what."

"You're seeing cabinets that use 4kW each, twice what it was five years ago," says Jim Weller, president of Baltimore Technology Park ([www.baltimoretechnologypark.com](http://www.baltimoretechnologypark.com)), a shared-use data center. "A lot of people are leaning toward blades as a patch because of their smaller footprint, but [blades] consume additional power and generate increased heat, and most centers plain can't handle that."

In addition, Weller says that all spaces have physical limitations, and given that the cost to build out a computer room is about \$1,000 per square foot, a company's CFO is not going to want to waste that kind of money for a space that will be obsolete in two years.

### SPONSORED LINKS

#### Aperture VISTA

An enterprise software solution that reduces operational risk and improves efficiency through the visual management of the data center  
[www.Processor.com/Aperture](http://www.Processor.com/Aperture)

#### Karis Technologies Series Enclosures

Data centers require flexible enclosure solutions that address multiple criteria; these enclosures meet challenges such as cooling, thermal management, and cable management head on  
[www.Processor.com/Karis](http://www.Processor.com/Karis)

#### Rackwise Standard Edition Client

The intelligent drawing stencils include the physical characteristics of each device including weight, power, heat, modules, and ports, as well as an Internet link to the manufacturer's specifications where available; designers can model an IT environment, risk-free, prior to implementation  
[www.Processor.com/RackwiseSE](http://www.Processor.com/RackwiseSE)

#### United Devices

Grid MP from United Devices is the leading infrastructure solution for implementing and managing complex enterprise grids  
[www.Processor.com/United](http://www.Processor.com/United)

### Facilitating For The Future

Weller says that data centers should be properly planned out and cannot just evolve the way networks on a storage or processing level often do. According to Weller, a primary reason for this disconnect is due to IT departments and facilities departments not speaking the same language.

"IT might say, 'Here are 65 servers. Put them in the room,' but they need to let the facilities guys know how big these servers are because of the power consumption and how many will be needed next year," says Weller.

According to VFA's Raffin, IT and facilities people need to understand jointly the importance of the data center within the overall facilities environment and the impact that facility management has on the data center. "Management strategies must be aligned and closely coordinated to optimize risk management and plan for long-term sustainability," she says.

Aperture's Yellin says that as data equipment becomes increasingly more complex and denser than ever, facilities departments are working more closely with IT than they ever have before. □

## Products To Help Manage The Physical Infrastructure

Product	Manufacturer	Features
Netuitive Service Analyzer	Netuitive ( <a href="http://www.netuitive.com">www.netuitive.com</a> )	<ul style="list-style-type: none"> <li>Automatically correlates temperature, power consumption, and other data center environment metrics with server performance metrics</li> <li>Warns IT admins of abnormalities using Trusted Alarm technology</li> <li>Predicts server performance based on environmental changes</li> <li>Sets performance baselines based on differing usage patterns of any given day</li> </ul>
VFA.facility	VFA ( <a href="http://www.vfa.com">www.vfa.com</a> )	<ul style="list-style-type: none"> <li>Supports collection and management of a wide range of facilities' asset information, including location, structure, requirements, and associated costs</li> <li>Streamlines capital budgeting</li> <li>Connects capital investments to company objectives</li> <li>Enables users to formulate a business plan for facilities renewal programs</li> </ul>
VISTA 500	Aperture Technologies ( <a href="http://www.aperture.com">www.aperture.com</a> )	<ul style="list-style-type: none"> <li>Monitors rack power availability</li> <li>Tracks ramifications of outages</li> <li>Offers enhanced support for blade servers</li> <li>Loads and preserves physical network and storage connections at multiple levels of granularity</li> <li>Provides broad reporting capabilities and automatic notification</li> </ul>

**NRS, Your #1 Source  
For New & Used  
Nortel Networks!**

**PRODUCTS, PROFESSIONAL SERVICES AND STAFFING SOLUTIONS**

**Products: 1-800-503-1349**

**Services: 1-800-503-1350**



**Network Resource Solutions, Inc.**

**People And Products  
To "Muscle" Your  
Network.**

**NORTEL  
NETWORKS**

**FOUNDRY  
NETWORKS**  
The Power of Performance™



**BUY AND SELL NEW AND USED EQUIPMENT!!!**

**sales@networkrs.com**

Brand names and products in this ad are trademarks of respective companies. NRS is not affiliated with companies.

**SONICWALL**

**Juniper.  
NETWORKS**

# Using Onsite Staffers

## Tips On Finding The Right People & Cutting Risk

by David Garrett

**SO, YOU NEED SOME HELP.** It's quite common for data centers. At some point in their lives, even the biggest, best-staffed sites need extra hands, eyes, and brains to get things done. With the growing role of compliance and a potential Vista deployment on the horizon, the workload is only getting bigger, and more and more companies are bulking up their staff with highly skilled temp or temp-to-perm workers who function as consultants on a placement firm's payroll.

### Staffing Quick Tips

If you're thinking of using onsite staffing to run your data center, be sure to:

Conduct thorough background checks on each worker.

Use an IT placement specialist and not an all-purpose or building maintenance firm.

Make sure your staffing firm will assume every bit of the workload you don't want, from billing and vacation planning to training and follow-ups.

Consider an onsite assessment before you start the search for candidates. Make sure your placement firm knows what it needs to know about your data center, your existing staff, and your in-depth needs. If not, it will send you square-peg candidates for round-hole needs.

Of course, bringing bodies into your data center is not without risk. You should know what to do—and what to avoid—before starting.

#### Getting Started

"Running a data center is pretty serious business," says Mike Hagan, vice president of Lee Technologies ([www.leetechnologies.com](http://www.leetechnologies.com)), data center experts whose clients include Office Depot, Home Depot, AOL, and AT&T. In the six months between April and October last year, Lee's onsite staffing business jumped 30%.

Why? According to Hagan, it's due in part to the enduring effects of Sept. 11, 2001. Fears over risk management and business continuity prompt companies to flesh out their staffs to deal with any contingency, 24/7/365. So they have growing worries over the demands of Sarbanes-Oxley and HIPAA, which demand a level of expertise in storage and content management systems that few companies have in-house. "It creates this continuous undertone of concern," says Hagan, "as people start to look at these things, and the volume becomes louder."

The convenience factor is another reason that companies look to onsite staffing. "They want to relieve themselves of the HR, the training, the replacement of bodies, the billing of vacations," says Hagan. "It becomes quite cumbersome for them."

And yet another reason to look to placement firms is the local talent pool, which can

be stunting. By definition, placement firms have a network of contacts that can ferret out the best workers no matter where they are, bringing them to your door and sparing you the time (and money) of searching.

#### Pros & Cons

Of course, there are risks to bringing new workers in-house, not the least of which is security. The best way to avoid the problem, says Hagan, is to ensure your staffing firm completes a thorough background check on any new staffer. This includes vetting his or her resume in depth, checking each credential, and looking for any run-ins with the law for the last 10 years.

Firms such as Lee are also equipped to screen workers for government sites and secret or top-secret clearance levels. "We're not just hiring a body and bringing them onboard," says Hagan. "You have to find the right people. You have to do background checks because these are confidential sites."

And you have to deal with the future, not merely the past. According to Hagan, a good staffing firm won't simply give you a body; it will follow up daily, weekly, and monthly to ensure the staffer fits with your culture. It will offer training if training is needed, says Hagan, "to make sure they're acting appropriately." And above all, it won't disappear once it receives its commission.

## A Common Mistake

Building management and data center management are beasts of a different stripe. The first of these concerns the physical plant, while the second deals with the systems and software inside that plant—often a far tougher job. Yet all too often, clients and staffing firms conflate the two, with middling or even disastrous results.

When you look for a source of onsite staffing, look at placement firms that specialize in data centers and IT departments and not maintenance or building management teams that also place IT workers. A specialist will understand your needs; it will give you better staffers in return.

## Beyond People

In fact, a good placement firm may begin its work long before it starts the search for candidates. Sometimes the first step in finding onsite staffers is assessing the site itself to determine the data center's needs before looking for the right people to fill them.

That assessment—a kind of due diligence—can include everything from meeting key admins and managers to vetting equipment, systems, policies, and even maintenance programs, to establish a baseline of current data center operations.

"An assessment is less than a \$10,000 investment," says Hagan. "When you look at the cost of an outage for most companies, it's significantly higher than \$10,000 per hour."

**A good staffing firm won't just give you a body; it will follow up daily, weekly, and monthly to ensure the staffer fits with your culture.**

**WRCA.NET**  
800-699-9722

www.wrca.net

Worldwide Provider of Network Hardware since 1981

**Selection sets us apart!**  
*Call us today for YOUR solutions!*

3COM Verilink Larscom NBase Xplex  
ADC Kentrox Tylink Paradyne Nortel Networks  
Adtran SynOptics Patton Hull Speed  
IBM Multitech Racial Digital Link  
Cisco Bay Networks Micom RAD Carrier Access  
BAT Electronics Motorola UDS Codex General DataComm  
Commonworks US Robotics

WR Consultant Associates, Inc. is committed to provide ALL your network hardware needs. Rely on experience to provide End-to-End WAN Solutions

**VIBRANT | TECHNOLOGIES**

We're fishing for your used hardware.

- IBM SYSTEM P5 (PSERIES)
- IBM SYSTEM X (XSERIES)
- HP PROLIANT (COMPAQ)
- HP INTEGRITY (HP9000)
- SUN MICROSYSTEMS
- CISCO ROUTERS
- CISCO SWITCHES
- EMC SAN STORAGE
- IBM SYSTEM STORAGE
- BROCADE SWITCHES
- EMULEX HBAs
- AND MORE

VIBRANT BUY EXCESS AND OFF-LEASE SERVERS, STORAGE AND NETWORKING EQUIPMENT

952-653-1700 | [SALES@VIBRANT.COM](mailto:SALES@VIBRANT.COM)

BUY • SELL • LEASE • REPAIR

**www.bltrading.com**

- \$2M in Inventory: SAN components, Disk Drives, HBAs, Switches, Tape Drives
- Storage Subsystems, Arrays, and more!
- Same-day shipments!
- EMC Certified Sales Professionals
- In-house integration staff
- Fully-tested equipment with manufacturer class warranties
- We BUY excess equipment!

Contact Michael Moore for more information:  
[mmoore@bltrading.com](mailto:mmoore@bltrading.com)

**781-982-9664**

BL Trading  
One Source...TOTAL Solution

145 Webster Street, Hanover MA 02339 [www.bltrading.com](http://www.bltrading.com)

**PRINTRONIX®**  
**QMS®**  
**New & Refurbished**  
**PRINTERS**  
SPARE PARTS • EXCHANGES • SUPPLIES  
TW-AX • CO-AX • IGP™  
QMS® Magnum®  
**Data Reliance Corporation**  
"Your Reliable Printer Source"  
[www.datareliance.com](http://www.datareliance.com)  
**Ph: 574-935-9550 Fx: 574-935-9555**

**WE PURCHASE MEMORY!**

Sell your excess or obsolete DRAM based inventory simply, efficiently and with maximum recoveries.

Micro Memory Bank, Inc.  
[www.memorybank.com](http://www.memorybank.com)  
215.643.6000  
ISO 9001 : 2000 Certified

**E.L.I.**

**SUN MICROSYSTEMS**

- Sun Fire
- Sun Blade
- StorEdge
- 3310/3510 Array
- Spars
- CPUs
- Drives
- Memory
- Entry/Midrange Servers

**DEC/HP**

- Alpha
- DecServers
- Comm. Gear
- VAX
- Memory/Disks

**CISCO**

- Routers
- Catalyst Series Switches
- Network Modules
- Pix Firewalls
- Port Adapters
- VPN+ Security Product

Phone 800-447-1156  
617-547-4005

Fax 617-354-1417

E-mail [sales@eli.com](mailto:sales@eli.com)

288 Norfolk Street  
Cambridge, MA 02139

For our complete online catalog go to [www.eli.com](http://www.eli.com)

# Why Users Don't Use Their Business PC

## Define Desktop & Notebook PCs For Employee Productivity

by Will Kelly

• • •

**FOR SMALL TO MIDSIZED** enterprises, desktop PCs are all about being a productivity tool, and PC standards are a best practice for effectively managing and securing PCs across the enterprise. However, it's typical to come across users who believe they can be an exception to the PC standard an organization has in place.

Steve Bulling, product manager for desktop PCs at Gateway Computers ([www.gateway.com](http://www.gateway.com)), stresses the importance of standards, especially as a business grows, because you can centralize PC security and apply operating system and software updates on the network level.

Nick Pegley, vice president of marketing for Redwood Shores, Calif.-based All Covered ([www.allcovered.com](http://www.allcovered.com)), an IT services firm targeting SMEs, is also a strong proponent of a standardized approach to buying and deploying PCs.

### Problems With Nonstandard PCs

However, not all PCs fit the same mold. Nonstandard PCs in a corporate environment can bring a whole raft of problems, including inconsistent security and higher support costs because of more time spent supporting nonstandard PC configurations.

"Look at support costs because they are lower with standardized PCs," says Pegley. Nonstandard PCs require more time on task. He notes, "You have the ability to swap PC parts and get increased buying power because you are buying in bulk."

If you haven't been keeping to a corporate PC standard, there is still hope because you can take advantage of your PC refresh cycle to introduce PC standards into your SME. Pegley advises that you look at the costs, your need to replace the system, and how to best establish a formal policy to set PC standards around your refresh schedule.

### Going Beyond Standardized PCs

With your PCs standardized, Bulling says to "put the end user first. You need to truly understand what the workers do going forward." His next bit of advice also should ring true for many SMEs: "Take a look at where you want the business to grow and consider both expansions and contractions."

When and if you run into cases for going beyond standardized PCs, it is going to take some upfront requirements gathering and analysis. Bulling advises looking at tailored PC solutions for your SME based on the specialized needs of particular departments and use-case scenarios to put in some structure. He says, "Understand

what the department's needs are now and their needs for future growth."

Pegley and All Covered also advocate a department-level approach to PC standardization. He advises that you look at the application in use at the department level. Like Bulling, he cites high-end and specialized applications as reasons to adapt PC standards

### Acceptable Exceptions

Some exceptions to a corporate PC standard are acceptable, such as:

- Graphics and marketing staff who use Macs to create marketing collateral and graphics when the rest of the company uses Windows as a standard
- Engineers requiring more processing power to use CAD (computer-aided drafting) software
- Analysts and statisticians using statistical software such as SAS ([www.sas.com](http://www.sas.com)) that requires processing power and memory above your corporate standard
- Engineers and programmers requiring alternate operating systems such as Linux or Unix for their development and/or production environment
- Home office workers that access corporate network resources remotely through a secure VPN

to the department level. For example, the marketing department uses Macintosh PCs to create marketing collateral, and the engineering department uses CAD (computer-aided drafting) tools to design products. CAD software has a reputation for being processor intensive and probably will require a PC with specifications that exceed a typical corporate PC standard.

Bulling also stresses looking at the specialized applications in use by the department and factoring those applications into department-level system requirements. "Manageability is the key moving forward," says Bulling. This manageability needs to consider security and regular maintenance/support. Even if you are facing multiple PC requirements, you can still get a rein on them. Offering your internal customers some leeway in requirements doesn't mean PC configurations have to get out of scope. Pegley advises that an IT department should define a short list of PCs it will support, including desktops and notebook PCs.

You can offer leeway in PC requirements through traditional corporate PC purchasing arrangements or by offering employees reimbursement for PC purchases. If you go the reimbursement route, it's best to set up a formal approval process and still control the list of brands and configurations.

The launch of Microsoft Windows Vista may even contribute to better PC standardization as early adopters (often SMEs) need to upgrade their hardware to take advantage of Vista's new features. According to Pegley, "Microsoft Windows Vista creates another window into the PC refresh cycle."

### Users & Their PC Requirements

Integrating corporate-wide discipline on PC standards requires upfront planning, requirements, and analysis. Communications with your internal customers is also a crucial component to implementing PC standards across your enterprise. □



Digital  
Brothers  
Group

770-931-7732  
Fax 770-931-9416  
[www.dbgweb.com](http://www.dbgweb.com)  
[sales@dbgweb.com](mailto:sales@dbgweb.com)

**AlphaServer GS160 Model 16**  
Base System for OpenVMS

- DY-160CG-AA
- One Alpha 21264 Processor 1224 MHz
- Four Quad Building Blocks
- One 14-Slot PCI Shelf
- OpenVMS Operating System License

ALSO AVAILABLE:

- Additional 1224 MHz CPU w/SMP
- Additional Memory
- Additional PCI Shelves
- Additional PCI Options

2 SYSTEMS IN STOCK!

Authorized **COMPAQ®** Reseller

**WE WILL BUY YOUR USED HARDWARE!**

**CISCO NORTEL**  
NEW • USED / BUY • SELL

**NORTEL**  
FORTINET™  
bluesocket

**AIRMAGNET**  
**airwave**  
**Cisco Systems**  
Registered Partner

**symbol**  
The Enterprise Mobility Company™

**NLE**

**Special**  
Nortel BPS 2000 switch  
NLE Good as New \$395.00

• Trade-ins welcome!  
• Authorized service contracts available

• Full Warranty on all products!  
• Role-Based networking experts!  
• Proactive threat management!

**888-8LANWAN**  
Call for Free Quote! (888-852-6926)  
**801-377-0074**  
Visit Us On the Web At: [www.nle.com](http://www.nle.com) Fax Equipment List To 801-377-0078

**WE BUY AND SELL**

**VECMAR Computer Solutions**

**hp** **NCR** **OKI** **PRINTRONIX** **TallyGenicom** **WYSE**

**NCR and HP Servers, Systems, Parts and Upgrades**

**New and Refurbished OKI, TallyGenicom and Printronix Printers**

**New and Refurbished WyseThin Clients and General Purpose Terminals**

**Call Toll-free 800.457.8499**



**Affordable Support for NetApp Filers!**

Zerowait provides Network Appliance customers with a reliable alternative to NetApp's high cost of legacy service, support and upgrades.

**Call us today for a competitive quote!**

**Processor Special**

**FAS940 NFS/CIFS Cluster with 2TB**

- Hardware and license transfers included!
- Price Only \$38,000

Quantities Limited!

**WWW.ZEROWAIT.COM**  
Toll-Free: 888.811.0808

**IT Professionals**  
**ReCURRENT technologies, inc**

**Sun Fire V210** \$2,995  
w/Dual 1GHz CPU  
2GB memory, 2x36GB disk

<b>Cisco PA-MC-2T3+</b>	\$9,250
	List Price \$28,000
<b>Cisco 3725 Router</b>	\$2,650
	List Price \$28,000

**TWO YEAR WARRANTY**

The Undisputed Leader in Pre-Owned Networking Hardware Since 1996

**(408) 727-1122** [www.recurrent.com](http://www.recurrent.com)

3431 De La Cruz Blvd | Santa Clara, CA 95054 | [info@recurrent.com](mailto:info@recurrent.com)

**PROCESSOR® SHOWCASE**

**Attention Manufacturers:**  
Advertise Your Products In Processor's Showcase Section!

- Proven publication in business since 1979
- Color picture
- Detailed, editorial-style product description
- Internet exposure via our Processor Showcase feature
- Only \$176 an issue

**Create More Brand Awareness!**  
Call Us Today at (800) 247-4880.

## WHAT'S HAPPENING

# Intelligent Storage

## Enhance Technology's Core Hybrid Technology

by John Brandon

**EVERY DATA CENTER** has a decision to make about data storage. And in the grand scheme of IT, the decision is critically important to your everyday business, often requires capital funding, and is inherently complex. Buying into a technology that does not allow you to plan for future growth can be a mistake that haunts you for years. Conversely, choosing an outdated storage medium that does not connect to all of your systems, or provides too little capacity for even your current workforce, can be equally painful.

### Core Hybrid Technology

One company that is on the forefront of IT data storage is Enhance Technology ([www.enhance-tech.com](http://www.enhance-tech.com)), which makes products in the "core hybrid" storage technology market designed to work in even complex IT environments. The concept of core hybrid is to provide an immense amount of storage that can be customized and expanded upon easily yet works with rackmount servers and uses fast SATA or SAS disks.

"Our primary product is a RAID storage array with embedded controllers that maximizes storage capacity for the mission-critical, high-level government and broadcast television industries," says Aaron Eskridge, the company sales manager. "Our products work best at companies where there cannot be any downtime, such as financial institutions, development companies, and broadcasters who need 24/7 uptime."

Eskridge notes that the prime motivation for many small and medium-sized enterprises involves the economics of storage. He says most customers come with one or two clear requests. Either they want the most storage for the best price, mostly because they have budget approval for a yearly storage purchase, or they are looking for an array that is fast, dense, and fits with their current technology needs.

### Product Offerings

Enhance Technology offers a wide assortment of products to meet these needs. For those looking for the most capacity, the Enterprise RAID Storage device provides 12TB of storage using 16 760GB SATA drives. The 3U rackmount device can use either 10K RPM SATA drives or 15K RPM Ultra320 SCSI disks. Host adapter options include dual-channel SCSI, dual-port Fibre Channel, or dual GbE Ethernet. There's also an eight-disk, 2U rackmount option available, depending on the needs of the data center and the technology used for servers and SAN-based storage.

"The capacity required really depends on the end-user need," says Eskridge. "I get feedback from customers that just 1TB is more than enough, while other companies need as many terabytes as possible as they continue to grow because they are storing vast libraries of images, archiving for government compliance, and they are just continually growing. Video-editing companies use a lot of our products for post production—content they filmed for editing and then offloading on final tape."

A RAID array works like a network-attached storage device. Some of the Enhance Technology products support iSCSI, which is a technology that allows

SCSI drives to connect to servers using Internet Protocol and makes the array accessible from any computer on the network. For connected arrays, there are several other required components, such as a switched host, a network hub, and a Fibre Channel switch.

### Trends In The Industry

"The iSCSI interface has been a huge trend for us," says Eskridge. "It's not so much for the performance, but for the connectivity, so you can access your array from all around the LAN. There's a switch that can make it a sharing array almost like a NAS, so it's easier to install and cheaper than a larger array. The NAS can also be part of a SAN. It's popular for security companies with closed circuit televisions used for monitoring where the data is automatically fed back to the array—even over long distances—for filming the evidence required if there's a break-in at a company. With iSCSI, everything can be

## ENHANCE | TECHNOLOGY

INNOVATION IN HYBRID STORAGE TECHNOLOGIES

connected together and managed easily, even in complex IT environments."

Eskridge also says a recent trend is for companies to consolidate storage and to settle on one of the technologies available. Consolidated storage in a RAID array is more expandable and easier to manage, he says, especially when a company is entering a new market or experiences sudden growth. "Users keep trying to do more with less storage, and an array provides more storage for these capacity-hungry users," he says.

For arrays, there are two main disk controller options available. SATA provides

the highest capacity and the best price. SAS provides the fastest throughput but at a higher price and lower capacities.

The bread-and-butter products in the Enhance Technology line offer both controller options in the 1U, 2U, and 3U rack-mount formats. The main difference between the various RAID products is which disks are used, the size of the enclosure, and the total capacity. For example, the R4 series is meant for data centers that need a sleek 1U rackmount enclosure. The R6 series is a storage and archiving product that supports disk-to-disk arrays or disk-to-disk-to-tape arrays. This product uses six drives in the 2U form factor. There are also 14-disk and 16-disk arrays for high-end storage.

### Local Storage

One other industry that Enhance Technology has recently entered is the desktop storage arena. Products are configured similarly to the network storage products and even use similar enclosures but don't provide the iSCSI interface options and typically require a SCSI or SATA Host Bus Adapter card for the desktop connection. The company even offers just the enclosure for adding your own array, optical disks, and backup tape drives.

Eskridge notes that there's been an interesting arc back toward local storage after the industry has moved so steadily toward SAN and NAS storage over the past five years, ever since the death of IDE. The reasons probably have as much to do with desktop activities for video and image editing as they do with lowered costs for RAID devices and faster SATA drive performance.

In the end, whether it's one annual purchase or a purely high-performance RAID decision, companies have plenty of options, can plan for the capacity of tomorrow, and may get the biggest network gains from a trim, rack-mountable RAID solution. □

## PROCESSOR.COM

## Vendor For-Sale Listings

### Find Used, New & Refurbished Equipment At Processor.com

You know you can rely on Processor.com to help you find a wide selection of data center equipment and services offered straight from the manufacturer. But did you know we also feature thousands of product for-sale listings from leading vendors in the industry? Our Vendor For-Sale Listings section makes it easy to find the used, new, and refurbished equipment you need.

You'll find the **Vendor For-Sale Listings** section toward the bottom of our home page.

If you have a specific part number you need, enter it in the **Search For** box. Be sure to use this box only for part numbers; do not enter manufacturer or model names. Click the radio button next to Starts With, Contains, or Exact Match. To provide you with the best possible search results, the default is Contains.

If you don't know the specific product part number, enter a brief description in the **Make, Model, Or Description** search box. Or, if you know the manufacturer of the product you're looking for, click the manufacturer's name in the right side of the Vendor For-Sale Listings box.

After you click Search or click the product manufacturer name, you'll see listings of the products available that match your search criteria. Each listing provides the product name, price, location, brief description, vendor offering the part for sale, and contact information. Click the part name to see a more detailed description or click the vendor's name to see more information about the

vendor. You can also click the link to **Send A Message** to the vendor inquiring about the product or click **Add To 'Products Of Interest'** if you want to be able to easily reference the product listing later.

If you didn't find the specific product you were looking for, try another search using the detailed search form at the bottom of any listing page. There you can again enter a part number or description, along with a manufacturer name, price range, condition (used, refurbished, new, etc.), state, and country. You can also choose to only see listings added in the past few days or select a different Sort Order to change the way listings display.

If you're still unable to find the product you need, send an email to [feedback@processor.com](mailto:feedback@processor.com). We'll be happy to help you locate the part available from one of the dozens of vendors on our site.

**Vendor For-Sale Listings - Used, New, Refurbished**

**Search For:** Part #  **SEARCH**

Starts With  Contains  Exact Match  
(Part# only - do not enter mfr. or model.)

**Enter:** Make, Model, or Description  **SEARCH**

(Example: ibm rs6000, rs6000, rs6000 m80, rs6000 disk drive)

**Pick a manufacturer from the list below:**

Detailed Search

3Com	Kingston
Bay Networks	Lexmark
Cisco	NCR
Compaq	Nortel Networks
DEC Digital Equipment	Okiidata
Dell	Seagate
Epson	Sun Microsystems
Hewlett-Packard	Toshiba
IBM	Wyse

All Manufacturers

**MANUFACTURER PART #** **PRICE (US \$)** **LOCATION**

3Com 3C16811 \$15,083 New WA

(Qty:10) , 3Com Switch 4007 Ethernet 1000Mbps 16-Ports 3C16811

CompuVest

Phone: (425)738-4091 x5  
or (888)644-7017

Updated: 10/26/2006 7:21:00 PM

**Send a Message** **Add To 'Products Of Interest'**

We're constantly striving to improve our tools. If you have any suggestions for improving our Web site or can't find the information you're looking for, send an email to [editor@processor.com](mailto:editor@processor.com) or give us a call at (800) 544-1264.

# THE COMPETITION JUST GOT A LOT STIFFER

## ■ Remote Server Management



### UltraMatrix™ Remote

**Connects 1,000 computers to up to 256 user stations**

- Multi-user, multi-platform KVM IP switch
- Supports PC, Sun, Apple, USB, UNIX, and serial devices
- High quality video up to 1280 x 1024
- Secure encrypted operation with login and access control
- Scaling, scrolling, and auto-size features
- View 4 computer connections using the quad-screen mode



### UltraConsole™ Remote

**Access servers & serial devices from anywhere in the world**

- PC, SUN, UNIX, Linux, USB, and serial devices
- Supports serial devices such as routers, switches, and more
- Emulates VT100/VT220 terminals
- Secure encryption operation
- Scaling, scrolling, auto-size and quad screen features
- View 4 computer connections using the quad-screen mode

## Digital KVM IP



### UltraLink™

**Manage & monitor servers from anywhere in the world**

- High-quality video up to 1280 x 1024
- Secure encrypted operation
- Scaling, scrolling, and auto-size features
- Quad screen, real-time viewing of 4 computers
- Compatible with most KVM switches
- Available in single, dual, and quad models

## ■ PC, Sun, Apple, USB, UNIX, Serial Devices



### UltraMatrix™ X-Series

**Expandable, multi-user switch for connecting 1,000 computers**

- Multi-platform units have serial VT220 terminal emulation
- Advanced visual interface (AVI)
- Security features prevent unauthorized access
- Free lifetime upgrade of firmware
- Video resolution up to 1600 x 1280
- Multi-lingual Menu



### UltraView™ Pro

**Access or Manage 2 to 256 computers from a single KVM station**

- Economical
- Easy to use, install, and expand
- Audio and serial support
- Advanced visual interface (AVI)
- Security features prevent unauthorized access
- Free lifetime upgrade of firmware

## KVM Switches



### QuadraVista™

**Display 4 computers on a single monitor**

- View live, real-time data in each window
- Easily switch to and control each computer in Quad or Picture-in-Picture (PiP) mode
- Video resolution up to 1920 x 1200
- VGA and DVI video supported
- Supports USB and PS/2 computers
- On-screen menus for easy set-up

## ■ Fiber, CATx, DVI/VGA, PS/2 or USB



### CrystalView™

**Extends keyboard, video, mouse, audio and serial up to 1000 ft**

- Supports USB, PS/2, or Sun
- Serial and full stereo options
- Available in single, dual, or quad video models
- Supports video resolutions up to 1600 x 1200
- Video tuning and skew adjustments available
- Dual version allows another KVM near computer



### CrystalView™ Pro

**Extends keyboard, video, mouse, audio and serial up to 33,000 ft**

- Supports DVI video resolutions up to 1920 x 1200
- Supports Fiber or CATx cable
- Supports singlemode or multimode fiber cable
- Supports PS/2 or USB keyboard and mouse
- Supports for local KVM station
- Fully automatic KVM sharing

## KVM Extenders



### ViewLink™

**Extends keyboard, video, & mouse up to 1000' over CATx**

- Automatic compensation and equalization
- Automated video skew adjustments
- Models available for PS/2, USB or both
- Video resolution up to 1600 x 1200
- Compatible with KVM switches
- Operating system independent

## ■ Organize, Streamline Server Rooms



### RackView™

**15", 17", 19", 20" LCD flat panels Fold forward & backward designs**

- Built-in single or multiple user KVM switch options
- Supports AT/XT, PS/2 and Unix computers
- DVI and S-video options available on 19" and larger LCD
- LCD flat panel and keyboard can be sold separately
- Available with full size, full function Sun keyboard
- Optional multi-media version with TV tuner & stereo speakers



### RackView™ Panel Mount LCD

**Mounts vertically in a standard 19" rack**

- Available with a 15", 17", 19", 20", or 23" LCD
- 19" and 20" models support DVI and VGA inputs
- Resolution up to 1280 x 1024
- Fits in 7 - 9 rack units (Depending on model)
- DVI and S-video options available on 19" or larger LCD
- Quick and easy rack mounting installation

## KVM Accessories



### VideoSplitter™ CAT5

**Distribute, amplify & extend video to 6 or 12 monitors**

- Video resolutions up to 1600 x 1200
- Each remote monitor can be up to 1,000'
- Optional Audio and Serial
- Easy to install
- Rack mountable chassis

ROSE US                    281 933 7673  
 ROSE EUROPE            +44 (0) 1264 850574  
 ROSE ASIA                +65 6324 2322  
 ROSE AUSTRALIA          +617 3388 1540

800-333-9343  
 WWW.ROSE.COM

ROSE  
ELECTRONICS